

RCA COLORTRAK 2000 OWNER'S MANUAL



Quick Links

[Television Features](#)

[Adding Video Input Channels to Channel Memory](#)

[Vcr Connections](#)

[Design Specifications](#)

Table of Contents

[Safety Precautions](#)

[Table of Contents](#)

[Television Features](#)

[General Installation Information](#)

[Antenna/Cable Information](#)

[Unpacking TV](#)

[Choosing the Best Location](#)

[Home Antenna Connections](#)

[Cable-Tv Connections](#)

[Scrambled Cable-TV Channels](#)

[Cable-TV Operation](#)

[EIA Multiport-Stereo Connector](#)

[Basic Remote Operation](#)

[Effective Range of Remote Control](#)

[Installing/Replacing Batteries](#)

[Remote Operation](#)

[Front Panel Controls](#)

[Video Button - General Instructions](#)

[Adjusting Video \(Picture\) Functions](#)

[Audio Button - General Instructions](#)

[Adjusting "Audio" Functions](#)

[Receiving Stereo Broadcasts](#)

[Resetting the "Audio: Stereo/Mono" Function to Receive Stereo](#)

[Receiving SAP Broadcasts](#)

[Turning on SAP Channel](#)

Turning Speakers On and Off

Turning Off TV's Internal Speakers

Setup Button - General Instructions

Using Setup Button

Setting the Sleep Timer

Clearing Sleep Timer

Setting Alarm to Turn TV On and Off

Setting Alarm for TV to Turn Off Only

Setting Alarm for TV to Automatically Change Channels at a certain Time

Turning Off Alarm

Setting Parental Control

Blocking Channels From Channel Memory

Programming "Channel Memory"

Autoprogramming Channels into Channel Memory

Erasing/Adding Channels in Channel Memory

Adding Video Input Channels to Channel Memory

Changing Antenna Input

Setting the Clock

Programming Picture Memory

Programming Preferred Video Adjustments into "Picture Memory"

Returning Video Functions to Original (Out-of-box) Positions

Changing "Cable/Air" Function

Changing "Message Style"

Turning "Autocolor" On and Off

Additional Operating Notes

Automatic Demonstration

Starting Auto Demo

Turning Off Auto Demo

Monitor Jack Panel and Component Connections

Tips To Read Before Connecting Components

Compatible Components

Cables

Accessory Cables and Adapters

Stacking Arrangements

Plugging in Power Cords

Position Cables to Avoid Hum

Turn Off Power Before Connecting Components

Monitor Jack Panel

Component Connections

Connecting Speakers to Back of TV

Connecting Speakers to Back of Amplifier or

VCR Connections

Standard VHS VCR

Preferred Method

Alternative Method

Remote Buttons That Control VCR

Dubbing/Editing with Two VCR's

Installation

Operation

Surveillance Systems (Video Cameras)

Amplifier or Cassette Tape Deck

Computers and Other Equipment with Audio/Video Outputs

Trouble Checks

Cleaning and Care

Design Specifications

[Additional Information](#)

[Index](#)

[For Swivel Models With Swivel-Lock Bolt](#)

[Quick reference remote operating guide](#)

[RCA Limited Warranty](#)

REA

Digital Control TV

Owner's Manual
Operating Instructions &
Warranty Information

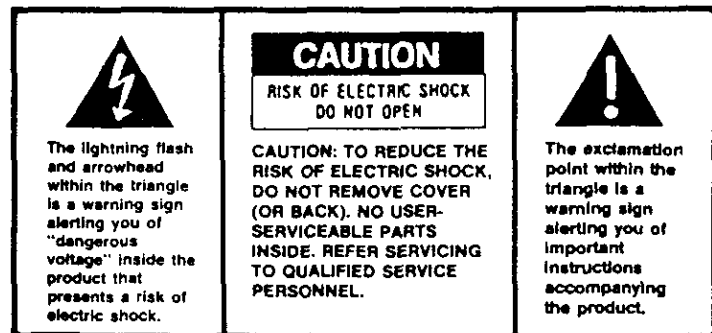


ColorTrak 2000

Safety Precautions

WARNING: To prevent fire or shock hazard, do not expose this TV to rain or moisture.

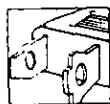
If you suspect that liquid has entered the TV, unplug it immediately and have it inspected by an RCA TV Servicenter. Turning it off is not enough—your TV and many other modern electronic devices have power applied to some circuits even when the **POWER** switch is turned off.



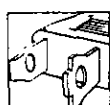
CAUTION: Maintain electrical safety. Powerline-operated equipment or accessories connected to this unit should bear the UL listing mark or CSA certification mark on the accessory itself and should not have been modified so as to defeat the safety features. This will help avoid any potential hazard from electric shock or fire. If in doubt, contact qualified service personnel.

Note to Cable TV Installer: This reminder is provided to call your attention to Article 820-22 of the National Electrical Code (Section 54 of Canadian Electrical Code, Part 1) which provides guidelines for proper grounding and, in particular, specifies that the cable ground shall be connected to the grounding system of the building as close to the point of cable entry as practical.

- Your TV operates on 120 volts, 60 Hz AC power (normal house power) and has a polarized AC plug. Because one blade of the plug is wider than the other, the plug fits into the wall socket only one way. Do not defeat the safety feature of this plug. If you need an extension cord, make sure it is polarized.



CAUTION: To prevent electric shock, do not use the polarized plug on this TV with an extension cord, receptacle, or other outlet unless both blades can be fully inserted to prevent blade exposure.



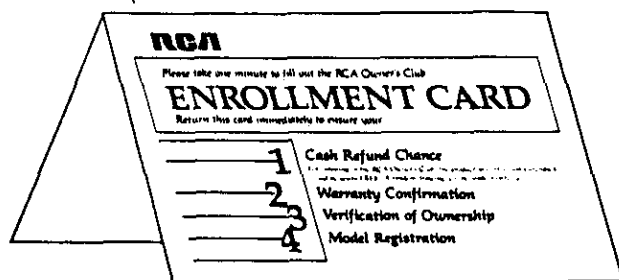
MISE EN GARDE: Pour prévenir les chocs électriques, ne pas utiliser la fiche polarisée de cet appareil avec une rallonge, une prise de courant ou une autre sortie, à moins que les lames ne puissent être insérées à fond sans qu'aucune partie ne soit laissée à découvert.

- All operating controls and their functions are identified and explained in this manual. For warranty service or routine maintenance, contact the nearest Authorized RCA TV Servicenter. All servicing and adjustments to electrical components should be done by a qualified service technician.

RCA Owner's Club

Mail Your Enrollment Card Today

- An *RCA Owner's Club Enrollment Card* is packed with your set. Please fill out the card and return it immediately.
- Your name then will be enrolled in the next drawing, which takes place every three months. If your name is drawn, you will be reimbursed for the *full purchase price* of your new RCA product (restricted to residents of USA only).
- Your prompt submission of this card confirms your right to the protection available under the terms and conditions of the warranty and also allows us to contact you in the unlikely issuance of a safety modification.
- With your card on file, we can also help you in the event of loss or theft by verifying your ownership.
- If you did not receive an RCA Owner's Club Enrollment Card, please contact your dealer.



Attach Your Sales Receipt Here and File at Home For Future Reference

- To obtain warranty parts and service, you must show your sales receipt (or other evidence of purchase) to your Authorized RCA Servicenter.
- Tape or staple your sales receipt to this manual so you will have it handy should service ever be needed. **Do not mail your sales receipt to us.** File it at home with your owner's manual for future reference.

Record Vital Information Here

- No other set has the same serial number as yours. You will find the serial number and the model number on the back of your set (and pre-printed on your Enrollment Card).
- Make sure you record both numbers below so that you will have them in case your set is stolen or in case you need a complete description for any other reason.

Model: _____

Serial: _____

Purchase Date: _____

Dealer Name/Address/Phone: _____

Introduction

Thank you for choosing RCA

Congratulations on your purchase of an RCA TV. You have selected a high-quality, precision-engineered instrument designed to give you years of video and audio enjoyment.

Despite its sophistication, your new TV is amazingly simple to operate because it has so many automatic features. To simplify operation even more, the TV provides on-screen prompts that guide you thru each step of the special functions. The remote control allows adjustment of major operating controls and special features from the comfort of your favorite easy chair.

Not only is your new set a state-of-the-art television receiver that combines sophistication with ease of operation, it also has full monitor capability thus providing you total flexibility whenever you choose to add additional components.

About This Manual

To take full advantage of all the features and benefits of this unique TV, be sure to read this owner's manual carefully and then keep it in a safe place for future reference.

This manual is divided into two sections. Section I explains how to install the TV and use the basic operating controls before you connect any other components to it.

Section II describes the monitor jack panel and illustrates how to connect components to your monitor/receiver.

A simplified remote operating guide is printed inside the Back Cover for convenient quick reference.

Table of Contents

Safety Precautions	Inside Front Cover
Warranty Registration	Inside Front Cover
Television Features	2

SECTION I—Basic Installation and Operating Instructions

Basic Installation Instructions	
General Installation Information	3
Antenna/Cable Information	3
Home Antenna Connections	4
Cable-TV Connections	5
Cable-TV Operation	6
Basic Operating Instructions	
Remote Control Operation	7-9
Front Panel Controls	10-11
VIDEO Button—General Instructions	12
Video (Picture) Adjustments	13
AUDIO Button—General Instructions	14
Audio Adjustments	15
Stereo Broadcasts	16
SAP Broadcasts	17
Speakers On/Off	18
SETUP Button—General Instructions	19
Sleep Timer	20
Alarm	21-22
Parental Control	23
Channel Memory (AutoProgram)	24
Channel Memory (Adding/Deleting Channels)	25
Changing Antenna Input	26
Clock	27
Picture Memory	28-29
Cable/Air Control	30
Message Style	31
Autocolor	32
Additional Operating Notes	33
Automatic Demonstration	34

SECTION II—Monitor Jack Panel and Component Connections

Tips To Read Before Connecting Components	36-37
Monitor Jack Panel	38-39
Component Connections	
Speakers	40
Camcorder	41
Super-VHS VCR	41
Standard VCR	42
Dubbing/Editing with Two VCR's	44
Cameras (Surveillance Systems)	45
Stereo Amplifier or Audio Cassette Recorder	46
Computers/Video Games	47
Remote Buttons That Control Compatible RCA VCR	43
Trouble Checks	48-49
Cleaning & Care Tips	50
Specifications	50
Swivel Lock Information	51
Index (Alphabetical Reference)	51-52
Quick-Reference Remote Operating Guide	53
Warranty	Back Cover

Television Features

S-VHS (Super VHS) Compatible—

S-VHS is a completely new video recording format that is based on the original VHS format. The S-VHS connector on the back of the TV allows you to connect external S-VHS VCR's or camcorders to your TV to take full advantage of this new format.

Wideband Video Amplifier—A new wideband video amplifier boosts the video signal response to the 7 MHz range when an appropriate wideband device (such as a Super VHS VCR) is connected to the set's video inputs. As a result, the ColorTrak 2000 Monitor-Receiver can reproduce up to 560 lines of resolution* when used with wideband video components. That's noticeably better than the 260 lines of resolution delivered by conventional broadcast television, or even the 330 lines of resolution provided by baseband video devices.

*Through S-VHS video input jacks using a wideband video source.

Vista Screen Hi-Con® Picture Tube—The "Vista Screen" is one of the most significant picture tube improvements in over 20 years. Compared to picture tubes using conventional designs, "Vista Screen" has a flatter face and a virtually planar screen border, minimizing distortion at corners and edges. COTY picture tube gun technology gives a brilliant color picture with better definition and reliability. And contrast is enhanced by a Hi-Con® screen with black matrix.

Stereo Sound System—lets you enjoy high-fidelity stereo sound from MTS stereo TV broadcasts (where available). Built-in dbx* system automatically suppresses unwanted noise. Audio also reproduces 2-channel sound from stereo VCR playback. Includes separate 5-watt-per-channel amplifiers.

*dbx is a trademark of dbx inc.

SAP Channel—your TV is capable of also reproducing a Second Audio Program if broadcast. (SAP channels sometimes are used for bilingual movies.)

Digital Remote Control—provides total remote control of nearly all operating functions from the comfort of your favorite easy chair. Controls not only your TV, but also compatible RCA

VCR's and audio equipment.

Cable-compatible Quartz Tuning—receives up to 147 channels in the USA including 91 non-scrambled cable channels. (In Canada, up to 120 channels can be received including 64 non-scrambled cable channels.) Quartz synthesizer tunes the channels, and digital counters and comparators automatically lock the tuning system to the signal.

Automatic Cable/Air Switching—during AutoProgramming, the TV's tuner automatically senses whether the set is hooked up to cable-TV or an off-air antenna and then automatically switches to the proper mode.

EIA MULTIPORT Connector—is a "universal interface" that may be used in the future to connect a variety of video and audio accessories. The connector conforms to industry standards and may enable you to use the new technology when it is introduced.

Monitor Capability—your TV also has an audio/video jack panel on the back that enables you to connect up to three video components directly to the TV. This jack panel makes it easy to connect VCR's, external speakers, audio equipment, etc.

Picture Memory—lets you program your favorite picture settings into memory so that pressing the *RESET* button will automatically change the video functions to whatever settings you programmed into Picture Memory. Also lets you return picture settings to original (out-of-box) positions whenever desired.

Sleep Timer—allows you to program TV to turn off after a pre-selected period of time (up to six hours).

Alarm Timer—allows you to program TV to turn on to your favorite channel and/or off by itself at the time you select.

Parental Control—allows you to block out up to six channels so that your children can watch only programs on channels you prefer, even if you're not home.

Multicolored On-Screen Displays—provide immediate information about your TV's status including channel number, time, stereo/SAP sound, sleep timer, etc. Also provide visual guides to assist in operating all set functions.

On-screen Time Display—after you set the clock, the time will appear on the screen whenever you press the *TV* or *DISPLAY* button on the remote control or change channels.

AutoProgramming—automatically programs active channels (whether off-air or cable) into the channel memory so that the *CHANNEL* $\wedge/\vee$ buttons stop only at pre-selected channels.

Two Antenna Inputs—allow you to connect two different signal sources to your TV (such as a cable-TV system to one input and a home antenna to the other). Then, by pressing the *ANT* button on the remote, you can switch back and forth between the two signals.

Message Style Choice—lets you choose the message style you like best for the on-screen displays, either "edged" or "blocked".

Comb Filter—separates color from black & white detail information in the video signal, resulting in a sharply-defined picture with enhanced resolution.

Video Noise Reduction—dynamically reduces visible interference in dark picture areas while retaining sharpness and detail in brighter areas.

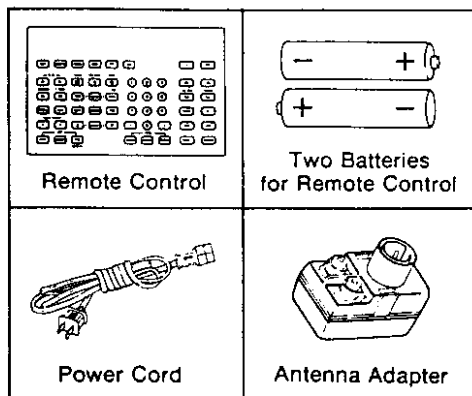
Automatic Picture Control System—*Automatic Color Control* monitors and adjusts color to maintain constant color levels even after program or channel changes. *Fleshtone Correction* maintains natural fleshtones while preserving fidelity of background colors. *Contrast/Color Tracking* balances contrast and color, with a single contrast adjustment. After initial adjustment, the Brightness and Color functions rarely need individual correction. *Light Sensor* automatically adjusts Contrast/Color Tracking circuitry as room brightness changes. *BlackLock Contrast Circuit* enhances contrast by keeping dark areas dark, minimizing distortion, and maintaining detail at high brightness levels.

Unitized XtendedLife Chassis—features advanced technology, including several microchips that replace dozens of color processing components. Cool-operating electronic regulation circuits enhance reliability and efficiency for outstanding performance, longer life expectancy, and lower power consumption.

General Installation Information

Unpacking TV

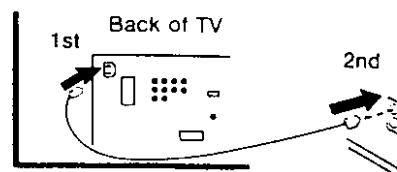
Shown here are the accessories that come packed with your TV. When you unpack your new set, be sure you have removed all the accessories and information sheets. We recommend that you save the packing materials and box in case you ever need to ship or store your TV.



Choosing the Best Location

- Choose a location that is convenient but away from sources of heat such as direct sunlight and heating units.
- Allow for air circulation around the set. This is especially important if you install it in a cabinet with several other components. Cleaning the ventilation slots on the cabinet at regular intervals will assure adequate ventilation.
- To prevent electric shock, avoid wet areas such as kitchens or bathrooms.
- Try to avoid direct light on the screen during operation. Because the picture tube emits light, direct light on the screen will weaken picture quality and intensity.
- If you are using an indoor antenna, an outside wall is a good location. You may want to try a few different locations to find the best possible spot for reception.

Attaching Power Cord

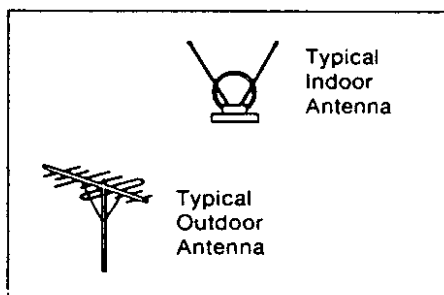


1. First insert the female end of the furnished power cord into the male connector on the back of your TV. The plug is designed to fit only one way.
2. Then insert the polarized 2-prong male end of the power cord into a corresponding AC power receptacle.

Note: Your TV operates on 120 volts, 60 Hz (normal household current) and has a polarized plug. Because one blade of the plug is wider than the other, the plug fits into the wall socket only one way. Do not defeat the safety feature of this plug. If you need to use an extension cord, make sure it is polarized.

Antenna/Cable Information

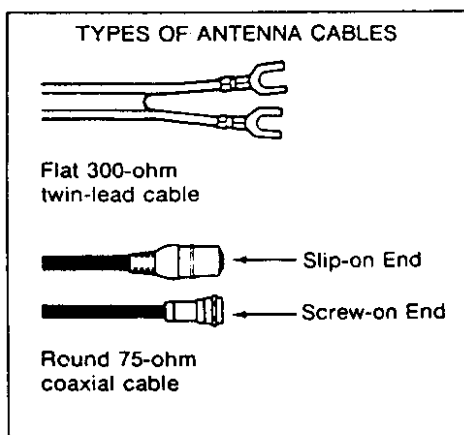
The antenna is the "signal receiver" for television. Most modern TV antennas receive both VHF (*Very High Frequency*) and UHF (*Ultra High Frequency*) channels. Channels 2-13 are VHF channels and channels 14-69 are UHF channels.



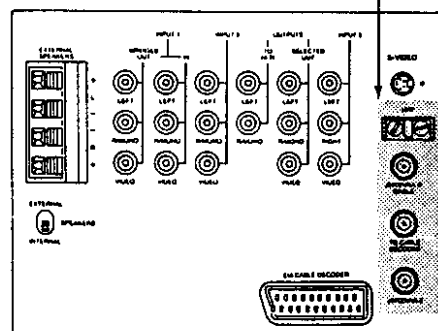
In most situations you will get better picture quality if you use an outdoor antenna or connect your TV to a cable-TV system. If this is not possible, use a good quality indoor antenna. Your indoor antenna should have separate leads for VHF and UHF if you are in an area with both VHF and UHF stations; or you can use separate VHF and UHF antennas.

Cable-TV (CATV) supplies television signals directly by cable without the need for a home antenna. Cable-TV delivers both VHF and UHF channels and other channels not available from your antenna.

Shown below are two basic types of antenna cables. Signals from a home antenna may be conducted through either type. Cable-TV signals, however, are always conducted through round, 75-ohm coaxial cable.



Use the connectors shown below to connect your antenna or cable-TV system to the back of the TV.



- Follow the instructions on page 4 if you intend to connect a home antenna to your TV.

—or—

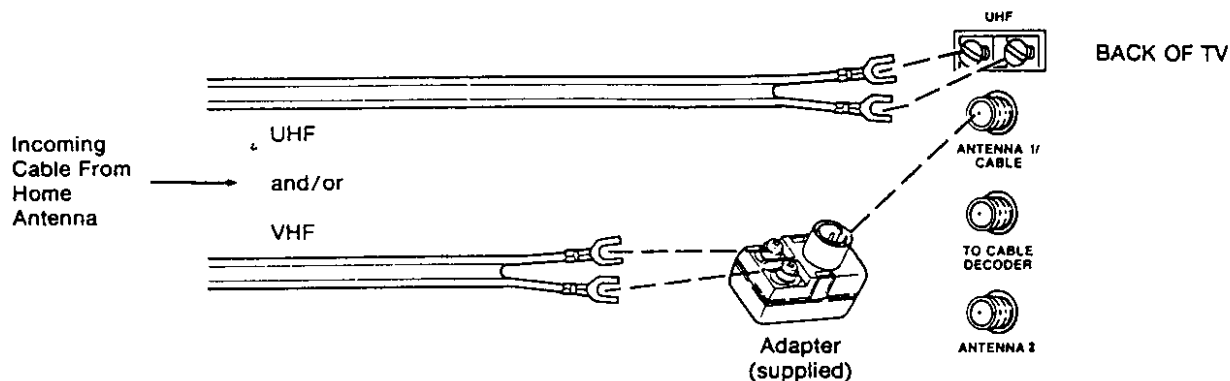
- Follow the instructions on pages 5-6 if you intend to connect a cable-TV system to your TV.

Home Antenna Connections

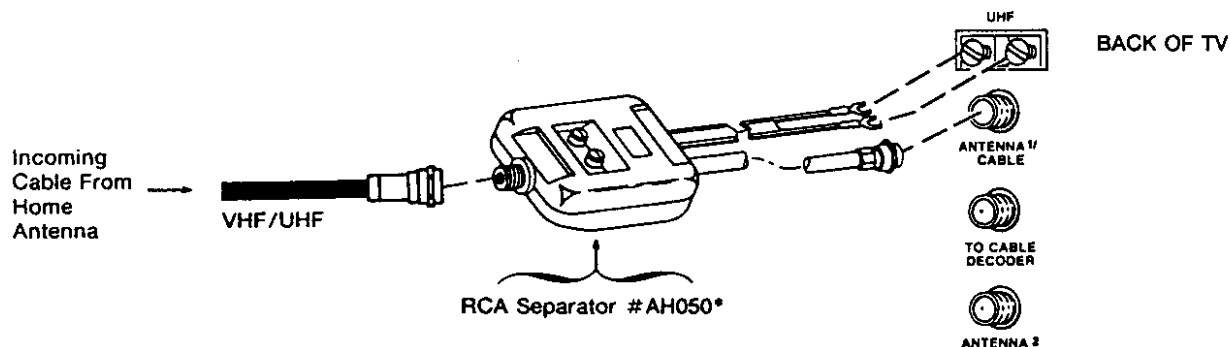
Follow one of these steps to connect either an indoor or outdoor antenna to your TV (only if you do not have a cable-TV system).

Note: You will not be able to receive channels (especially VHF) unless you connect your antenna first.

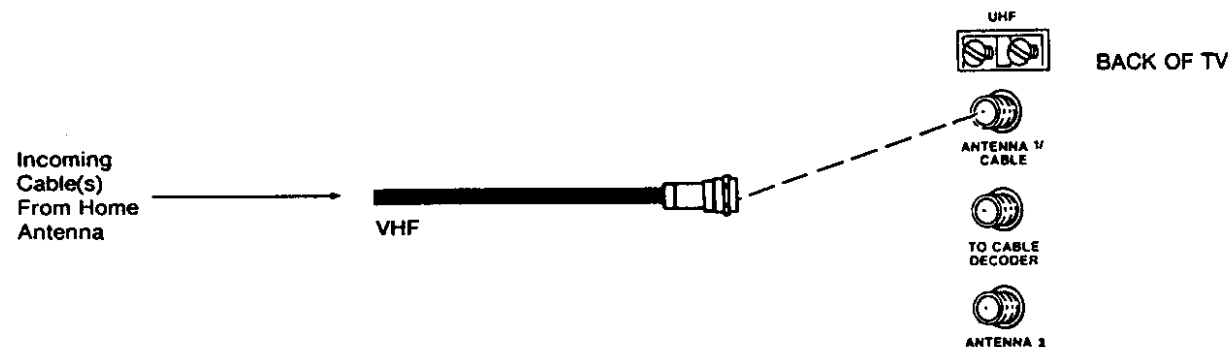
A If the antenna wire(s) coming from your home antenna is a 300-ohm, flat, twin-lead cable as shown here, connect it to your set like this:



B If the antenna cable coming from your home antenna is a 75-ohm, round, coaxial cable that carries both VHF (channels 2-13) and UHF (channels 14-69), connect it to your set like this:



C Most round, 75-ohm, coaxial-cable home antenna systems carry both VHF and UHF signals and should be connected as shown above in step B. However, if your round, coaxial cable carries only VHF signals (channels 2-13), connect it to your set like this.



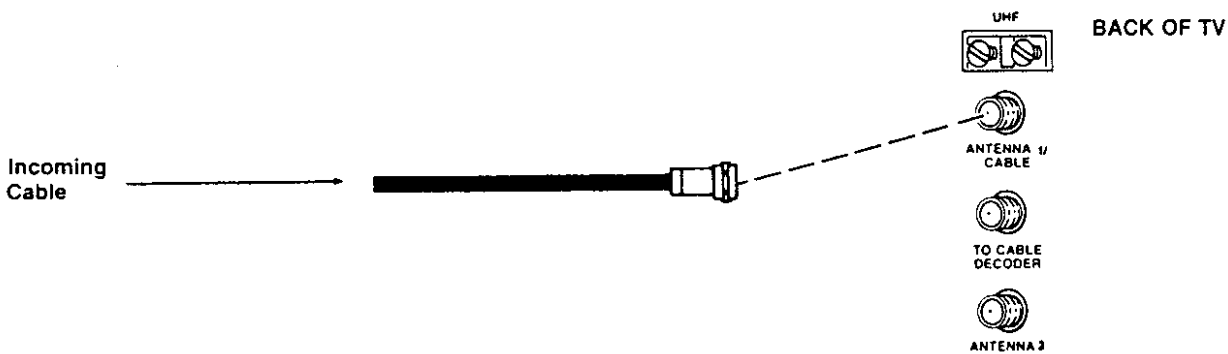
*Optional accessory available from your RCA dealer or electronic supply store.

Cable-TV Connections

Follow one of these steps to connect a cable-TV system to your TV instead of a home antenna.

Note: Since cable-TV systems vary, you may wish to consult your local cable-TV company for additional information.

- A** Follow this diagram if your cable company does not require a converter/decoder box (no scrambled channels):



- B** Follow this diagram if your cable company requires a converter/decoder box for scrambled "premium" channels:

Scrambled Cable-TV Channels

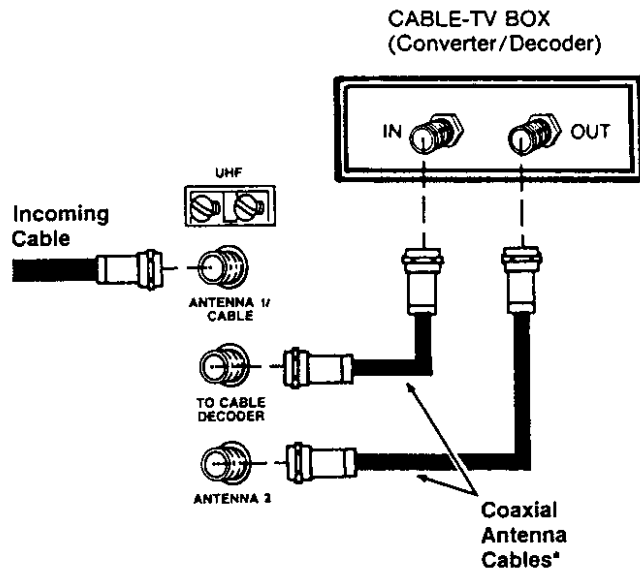
Some cable-TV decoders require that you manually switch from regular to scrambled channels on the decoder whenever you wish to view the premium pay channels. By connecting the decoder to the antenna switcher block of your TV, you can switch between the scrambled and unscrambled channels using the remote control.

Simply press the *ANT* (Antenna) button on the remote control to switch between the scrambled and unscrambled channels.

Each time you press the *ANT* button, "ANT A" or "ANT B" appears on the screen to show which antenna signal you're watching.

Nonscrambled cable channels will come thru the *ANTENNA A* input whenever "ANT A" appears on the screen.

The scrambled channel from the decoder box will come thru the *ANTENNA B* input whenever "ANT B" appears on the screen. Be sure to leave the decoder box set to the scrambled channel.



*Optional accessory available from your RCA dealer or electronic supply store.

Cable-TV Operation

Your new TV is designed to receive up to 147 channels in the USA including 91 non-scrambled cable channels. (In Canada, up to 120 channels can be received including 64 non-scrambled cable channels.) To use this TV on a cable-TV system, confirm that the cable-TV system is properly connected to your TV as shown on page 5. Since cable systems vary, you may wish to consult your local cable-TV company for additional information.

If your cable-TV company follows EIA/NCTA channel-identification standards, most of the channels offered by your cable company will be identified by channel numbers that are identical to those on your TV. For example, if your cable-TV system has programs on cable channel 20, you can choose this channel by selecting channel 20 on your TV. If your cable company offers cable channels A-1 or A-2, you can tune them by selecting TV channels 99 or 98. (Cable channels A-1 and A-2 are not available in Canada.)

Some cable-TV companies do not follow the EIA/NCTA standards and instead assign their own channel identification. For example, some use the standard broadcast channel numbers (2-13) for channels 2-13, but identify their other channels with letters. If your cable company does not follow the EIA/NCTA standards, ask them for a cross reference that shows to which channels you should tune your TV to receive their cable-TV channels.

Not all cable-TV channels will be active on your particular cable-TV system. Also some cable companies may require the use of a decoder with their cable-TV system. Consult your cable company or local RCA dealer for details.

Scrambled Cable-TV Channels

Some cable companies offer "premium-pay" channels in which the signal is scrambled. Descrambling these signals for normal viewing requires the use of a descrambler device which is generally provided by the cable company.

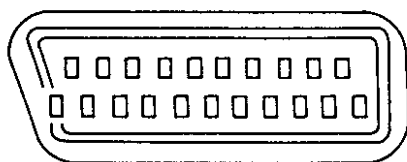
The descrambler device may or may not be a part of the cable converter. Diagram B on page 5 shows how to connect this type of converter/descrambler device to the TV.

Since cable systems vary, you may wish to consult your local cable company for additional information.

Note: In the U.S.A., if your cable company offers ultra-band cable channels 65-89, you can tune them by adding the optional accessories in RCA Kit No. AH056 to the incoming cable. Check with your local RCA dealer for more complete information.

EIA MULTIPORT-STEREO Connector

EIA MULTIPORT-STEREO



This connector may have future value for you. The TV Industry and the Cable-TV Industry recently worked together through the EIA (Electronics Industry Association) to develop a standardized connector for televisions and cable-TV systems.

This connector was developed for high-performance, cable-descrambling applications. It is also a "universal interface" that may be used in the future to connect a variety of video and audio accessories.

The *EIA MULTIPORT* connector* on the back of your set conforms to industry standards and may enable you to use the new technology when it is introduced.

*Does not include RGB.

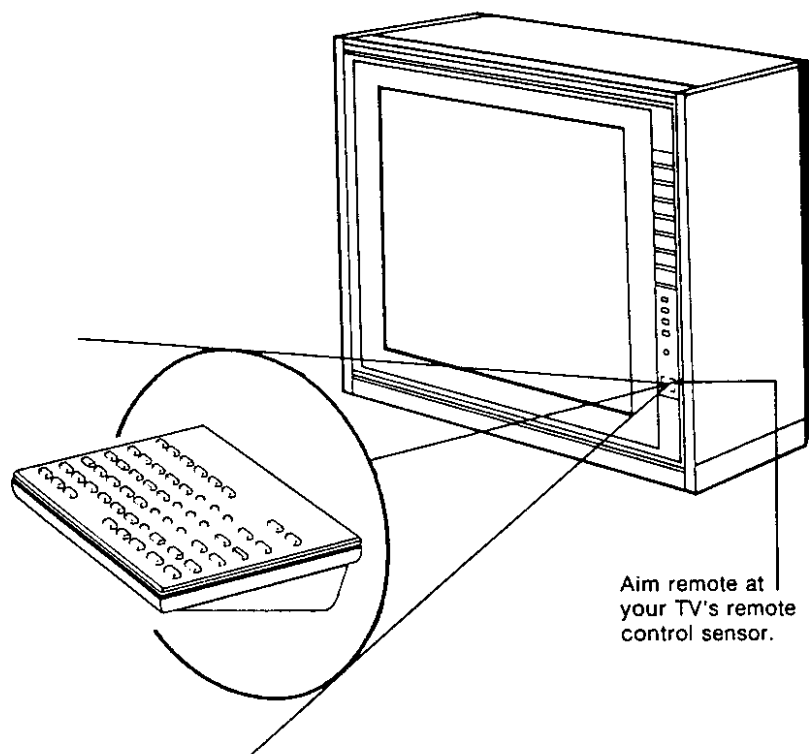
Basic Remote Operation

Operating Remote Control

The Digital Control remote not only controls your new TV but several other compatible RCA VCR models as well.

Before attempting to operate your remote control, install the batteries as shown below.

Effective Range of Remote Control

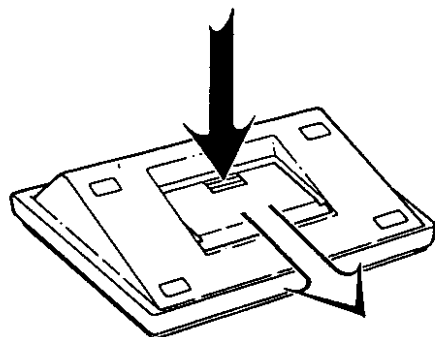


The remote control produces an invisible (infrared) beam that travels in a straight line much as the beam of a flashlight. For this reason, when operating the remote control, you must point it directly at the front of the TV without objects between that can block the infrared light beam.

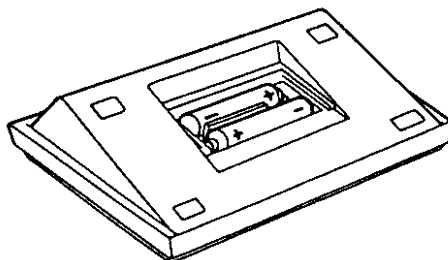


Installing/Replacing Batteries

1. Turn the remote control face down.
2. Press down on the ridged area of the battery cover and slide it off.



3. Install two "AAA" batteries as shown. Make sure you match the + end of each battery to the + end of the battery compartment.



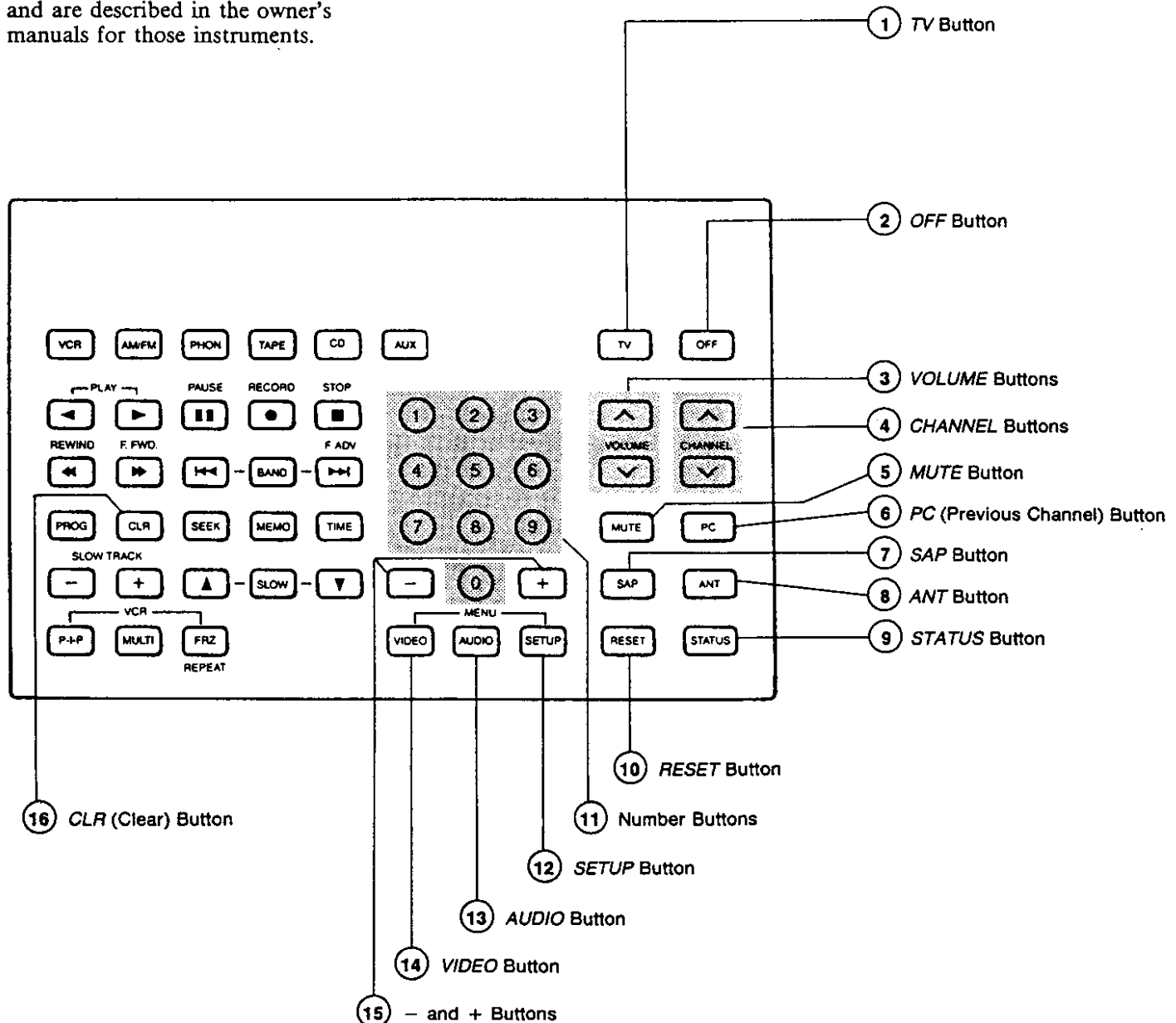
4. Replace the cover and turn remote over—face up.

Notes:

- Never place anything heavy on top of the remote control or lay it upside-down. This may accidentally depress the buttons for a long time and discharge the batteries.
- Replace the batteries when the TV fails to respond to the remote control.
- Remove the batteries from the remote control if it will not be used for a month or more. This will prevent possible damage from battery leakage.

Remote Operation

Only the remote control buttons that are used to control the TV (about half of the total) are described here. The rest of the buttons are used to operate other compatible RCA instruments and are described in the owner's manuals for those instruments.



1 TV Button

- Turns on TV and puts remote in "TV Mode" so that the other remote buttons will control the TV.
- Quickly removes menus from the screen.
- Displays time (if clock has been set) and channel number on the TV screen.

IMPORTANT NOTE: Most buttons on the remote control will not control the TV unless the remote is in the "TV Mode". If another button in the top row is pressed (such as the button labeled VCR), the remote will go into the "VCR Mode" and will only control a compatible VCR. To get back into the "TV Mode", simply press the button labeled TV again. The remote will go back into the "TV Mode" and will control the TV again.

2 OFF Button

- Press OFF button to turn off TV.

3 VOLUME Button

- Press VOLUME ▲ to increase volume.
- Press VOLUME ▼ to decrease volume.

4 CHANNEL Buttons—(Channel Selection via Scan)

- Press CHANNEL ▲ to select next higher channel in channel memory.

Remote Operation (cont)

- Press **CHANNEL ▼** to select next lower channel in channel memory.

NOTE: Channels 2 thru 13 and 91 were programmed into the channel memory for you at the factory. Instructions for adding or erasing channels in memory are on pages 24-25.

⑤ MUTE Button

- Press **MUTE** to quickly reduce sound to minimum level without affecting the picture. This is very useful during telephone calls or other interruptions.
- When sound is muted, the word "MUTE" will be displayed in the bottom left corner of the screen.
- To restore sound, press **MUTE** again or press **VOLUME ▲**.

⑥ PC (Previous Channel) Button

- Pressing the **PC** button causes the TV to change back to the last tuned channel. This is useful should you want to monitor two channels.
- To operate, select the first channel you wish to watch. Then select the other channel by pressing two number buttons (for example, press 0 then 6 for channel 6).
- The TV will now change back and forth between the two channels each time you press the **PC** button.

⑦ SAP Button

- Some TV programs are broadcast with more than one audio channel. For example, some programs are broadcast in two languages at the same time. The Second Audio Program is called SAP, and the TV's **SAP** light will come on whenever SAP audio is being received. (The "AUDIO: STEREO/MONO" function must be in "STEREO" mode for **SAP** light to come on—unless the **SAP** button has been pressed.)

⑧ ANT (Antenna) Button

- Because your TV has two different antenna inputs on the back (Labeled **ANTENNA A/CABLE** and **ANTENNA B**), you can connect more than one antenna or signal source.
- Press the **ANT** button to switch from one input to the other.
- The words "ANT A" or "ANT B" will appear in the bottom right corner of the screen to let you know which signal source you are watching.
- If "ANT A" appears on the screen, you are watching whatever is connected to the **ANTENNA A/CABLE** input on the back of the TV.
- If "ANT B" appears on the screen, you are watching whatever is connected to the **ANTENNA B** input on the back of the TV.

⑨ STATUS Button

- Quickly remove menus and displays from the screen.
- Displays time (if clock has been set) and channel number on the TV screen.

⑩ RESET Button

- Press **RESET** to return the **VIDEO** adjustments (Color, Tint, Contrast, Brightness, and Sharpness) to the settings stored in "Picture Memory".
- Detailed information about "Picture Memory" is on pages 28-29.

⑪ Number Buttons—(Direct Channel Selection)

- Always press two number buttons (first one, then another) to select a channel. For example, press "0" then "6" for Channel 6. Press "1" then "3" for Channel 13.
- Also used for viewing signals from other components plugged into the input jacks on the back via channels 91 (**INPUT 1**), 92 (**INPUT 2**), and 93 (**INPUT 3**).

⑫ SETUP Button

- Press once to see functions in first Setup Menu shown here:

```
1 SLEEP TIMER
2 ALARM SET
3 PARENTAL CONTROL
4 AUTOPROGRAM
5 ANTENNA: INPUT A
PUSH SETUP FOR MORE
```

- Press again to see second Setup Menu shown here:

```
1 CLOCK SET
2 CHANNEL MEMORY
3 PICTURE MEMORY
4 CABLE/AIR: AIR
5 MESSAGE STYLE
6 AUTOCOLOR: ON
```

- Detailed instructions begin on page 19.

⑬ AUDIO Button

- Press once to see functions in Audio Menu shown here:

```
- TREBLE
  BASS
  BALANCE
  AUDIO: STEREO
  SAP: OFF
  SPEAKERS: ON
```

- Detailed instructions begin on page 14.

⑭ VIDEO Button

- Press once to see functions in Video Menu shown here:

```
- COLOR
  TINT
  CONTRAST
  BRIGHTNESS
  SHARPNESS
  AUTO RESET
```

- Detailed instructions begin on page 12.

⑮ - and + Buttons

- Use these buttons after you have pressed one of the three **MENU** buttons (**VIDEO**, **AUDIO**, or **SETUP**).
- Press "+" to increase (or change) a function.
- Press "-" to decrease (or change) a function.
- After a display has disappeared, use to recall the last function you adjusted.

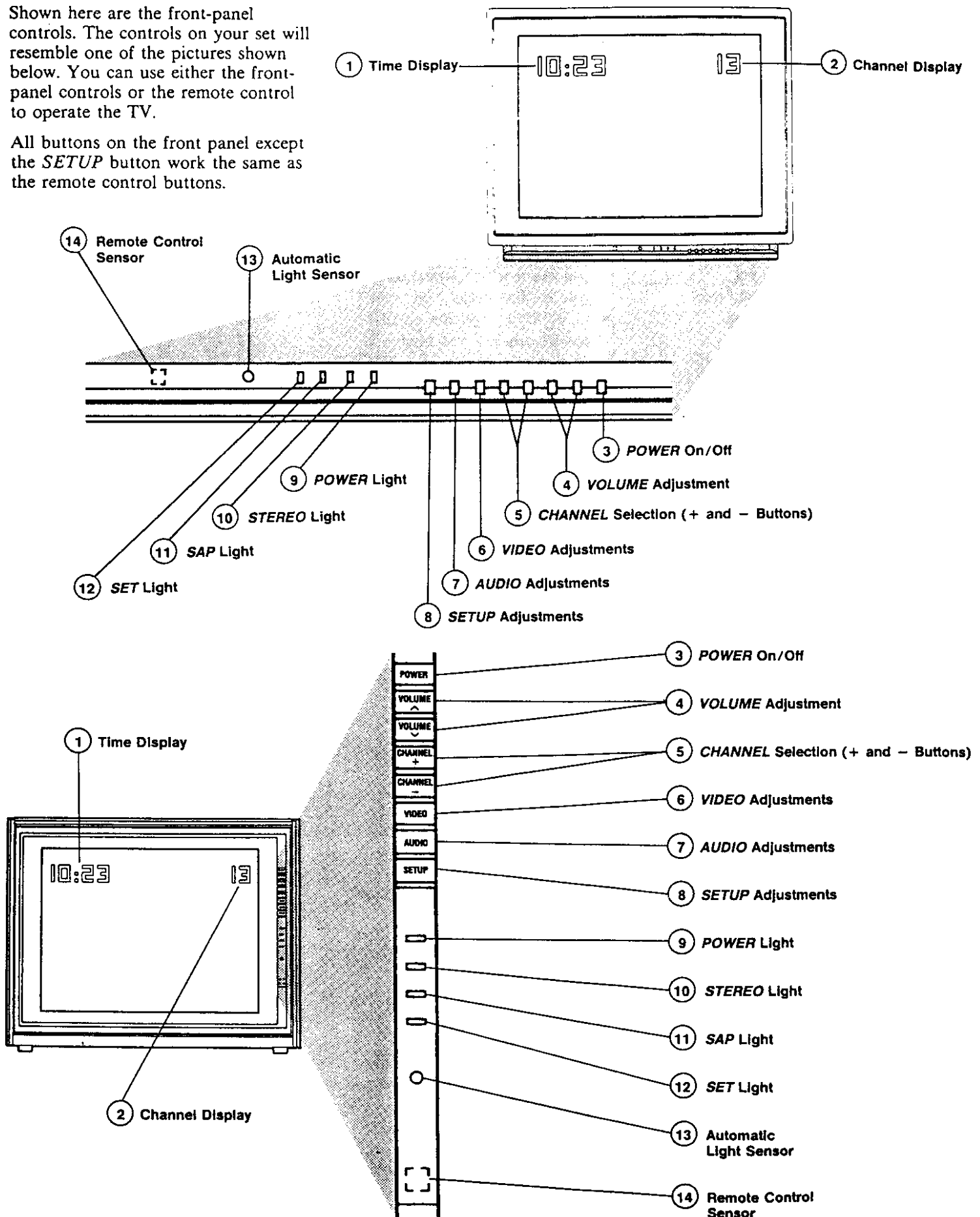
⑯ CLR (Clear) Button

- Press **CLR** to erase entries from the Sleep Timer, Alarm, Clock, and Parental Control memories.
- Pressing **CLR** also clears screen of on-screen display messages (except **MUTE**).

Front Panel Controls

Shown here are the front-panel controls. The controls on your set will resemble one of the pictures shown below. You can use either the front-panel controls or the remote control to operate the TV.

All buttons on the front panel except the *SETUP* button work the same as the remote control buttons.



- ① **Time Display**
- Once set, displays the current time whenever you turn on the TV, change channels, or press the *TV* button.
 - The time is also displayed whenever you change volume with the *VOLUME* buttons on the TV.

- ② **Channel Number Display**
- Shows the number of the channel you're watching.
 - Appears whenever *TV* or *DISPLAY* button is pressed or channel is changed.

- ③ **POWER On/Off**
- Press once to turn on TV.
 - Press again to turn off TV.

- ④ **Volume Adjustment**
- Press *VOLUME* $\wedge$ to increase volume.
 - Press *VOLUME* $\vee$ to decrease volume.

- ⑤ **Channel Selection (+ and - Buttons)**
- Press + to see next higher channel in memory.
 - Press - to see next lower channel in memory.

Note: Channels 2 thru 13 and 91 were programmed into the channel memory for you at the factory. Instructions for adding or erasing channels in memory are on pages 24-25. To access video input, see page 25.

- ⑥ **VIDEO Adjustments**
- Press once to see functions in Video Menu shown here:

```

- COLOR
  TINT
  CONTRAST
  BRIGHTNESS
  SHARPNESS
  AUTO RESET
  
```

- Detailed instructions begin on page 12.

- ⑦ **AUDIO Adjustments**
- Press once to see functions in Audio Menu shown here:

```

- TREBLE
  BASS
  BALANCE
  AUDIO: STEREO
  SAP: OFF
  SPEAKERS: ON
  
```

- Detailed instructions begin on page 14.

- ⑧ **SETUP Functions**
- Press once to see functions in Setup Menu shown here:

```

- SLEEP TIMER
  PICTURE MEMORY
  AUTOPROGRAM
  CABLE/AIR: AIR
  MESSAGE STYLE
  ANTENNA: INPUT B
  
```

- Detailed instructions begin on page 19.

- ⑨ **POWER Light**
- Lights whenever TV is turned on.
 - Blinks when alarm is set and TV is turned off.

- ⑩ **STEREO Light**
- Lights whenever TV is receiving a stereo broadcast and *AUDIO* function is set to *STEREO* mode. More information on page 16.

- ⑪ **SAP Light**
- Lights whenever TV is receiving SAP (Second Audio Program). More information on page 17.

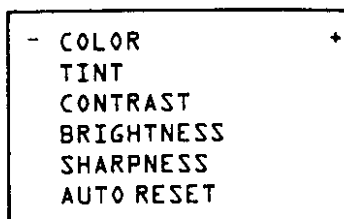
- ⑫ **SET Light**
- Lights whenever the SAP function is set (on). This means your TV is ready to receive a SAP broadcast (such as a bilingual movie).

- ⑬ **Automatic Light Sensor**
- Measures the light in the room and automatically adjusts the overall picture to match the room brightness.

- ⑭ **Remote Control Sensor**
- Receives commands from the remote control. When using the remote control, point it toward this sensor.



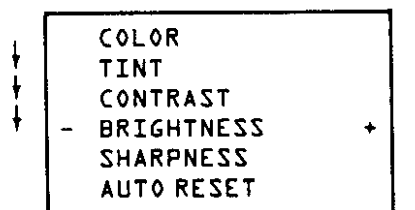
- 1.** Press *VIDEO* button on front of TV or on remote control.



Video Menu appears on TV screen.

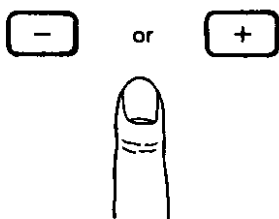


- 2.** Press *VIDEO* button again until “-” and “+” marks move to function you want to adjust.



“-” and “+” marks move one line each time you press the *VIDEO* button.

Note: If the *VIDEO* button is pressed again when “-” and “+” marks are next to “*AUTO RESET*”, the menu disappears. Another press returns the menu to the screen with “-” and “+” next to “*COLOR*”.



- 3.** Press “-” or “+” button on front of TV or remote to adjust function.



- Press “-” to decrease.
- Press “+” to increase.

Display will automatically disappear in 4 seconds unless you press “-” or “+” again.

Note: The Video Menu will automatically disappear from the screen if you do not press “-” or “+” within 30 seconds. Whenever a menu or display disappears from the screen, the “-” and “+” buttons on the TV become the *CHANNEL* $\wedge/\vee$ buttons.

Note: The “*AUTO RESET*” function is explained on pages 28 and 29.

Adjusting Video (Picture) Functions

**VIDEO
Button**

"COLOR" Adjustment

The "COLOR" function adjusts the amount of color in the picture.

1. Press **VIDEO** button once. Video menu will appear on screen with "-" and "+" marks next to the word "COLOR".
2. Press "-" button to decrease color, or press "+" button to increase color.
3. Screen will display graph of color range:



"BRIGHTNESS" Adjustment

The "BRIGHTNESS" function adjusts the brightness of the dark portions of the picture.

1. Press **VIDEO** button repeatedly until "-" and "+" marks move to the word "BRIGHTNESS".
2. Press "-" button to decrease brightness, or press "+" button to increase brightness.
3. Screen will display graph of brightness range:



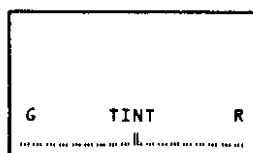
How to Adjust for a Color Picture that Pleases You

1. Decrease "COLOR" and "CONTRAST" to minimum. This will leave a dim black-and-white image on the screen.
2. Adjust "BRIGHTNESS" until the black parts of the picture appear black. You may need to wait until the picture shows something you're sure is black to make this adjustment. Be careful not to lose the details in darkly shaded areas.
3. Increase "CONTRAST" until the picture pleases you. You may need to readjust "BRIGHTNESS" as preferred.
4. Increase "COLOR" until you reach a pleasing level of intensity.
5. Adjust "TINT" until flesh tones or other color objects appear natural.
6. Adjust "SHARPNESS" for a pleasing level of picture sharpness.
 - For normal viewing, adjust to midrange.
 - For a sharper picture, increase "SHARPNESS".
 - For weak signals, the picture may be more pleasing with "SHARPNESS" decreased.

"TINT" Adjustment

The "TINT" function adjusts the color of flesh tones.

1. Press **VIDEO** button repeatedly until "-" and "+" marks move to the word "TINT".
2. Press "-" button to add more green tint, or press "+" button to add more red tint.
3. Screen will display graph of tint range:



"SHARPNESS" Adjustment

The "SHARPNESS" function adjusts picture sharpness.

1. Press **VIDEO** button repeatedly until "-" and "+" marks move to the word "SHARPNESS".
2. Press "-" button to decrease sharpness, or press "+" button to increase sharpness.
3. Screen will display graph of sharpness range:



"CONTRAST" Adjustment

The "CONTRAST" function adjusts the overall brightness and contrast of the picture.

1. Press **VIDEO** button repeatedly until "-" and "+" marks move to the word "CONTRAST".
2. Press "-" button to decrease contrast, or press "+" button to increase contrast.
3. Screen will display graph of contrast range:

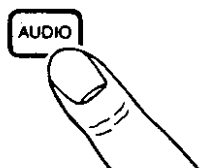


CAUTION: When using TV games, computers, and similar products with your TV, keep the "BRIGHTNESS" and "CONTRAST" functions at low settings. If a fixed (non-moving) pattern is left on the screen for long periods of time at a high "BRIGHTNESS" or "CONTRAST" setting, the image can be permanently imprinted onto the screen. These types of imprints are not covered by your warranty because they are the result of misuse.

Using AUTO RESET Function

After you have adjusted the video functions (Color, Tint, Contrast, Brightness, and Sharpness) to your liking, you can program those settings into "PICTURE MEMORY", so that pressing the **RESET** button on the remote (or using the "AUTO RESET" function in the Video Menu) will automatically change the video adjustments to whatever settings you programmed into "PICTURE MEMORY". This is very useful in case someone changes your settings accidentally.

Instructions for programming the "PICTURE MEMORY" are on pages 28-29.



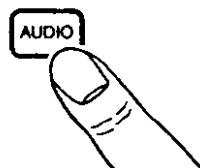
1. Press **AUDIO** button on front of TV or on remote control.



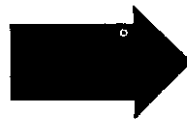
```

- TREBLE +
BASS
BALANCE
AUDIO: STEREO
SAP: OFF
SPEAKERS: ON
    
```

Audio Menu will appear on TV screen.



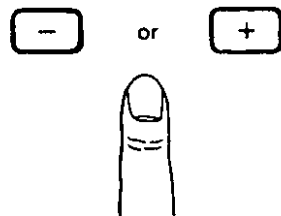
2. Press **AUDIO** button repeatedly until “-” and “+” marks move to function you want to adjust.



```

TREBLE
BASS
- BALANCE +
AUDIO: STEREO
SAP: OFF
SPEAKERS: ON
    
```

“-” and “+” marks move down one line each time you press the **AUDIO** button.



3. Press “-” or “+” button on front of TV or remote control to adjust or change function.

Note: The Audio Menu will automatically disappear from the screen if you do not press “-” or “+” within 30 seconds. Whenever a menu or display disappears from the screen, the “-” and “+” buttons on the TV become the **CHANNEL** Δ/∇ buttons.



```

- TREBLE +
|||||
    
```

```

L BALANCE R
|||||
    
```

For “TREBLE”, “BASS”, and “BALANCE” functions:

- Press “-” to move toward left.
- Press “+” to move toward right.

For “AUDIO”, “SAP”, and “SPEAKERS” functions:

- Press “-” or “+” to change setting.

Note: Displays will automatically disappear in 4 seconds unless you press “-” or “+” again.

"TREBLE" Adjustment

The "TREBLE" function adjusts the high frequency audio.

1. Press **AUDIO** button until "-" and "+" marks are next to the "TREBLE" function.



```

TREBLE
BASS
BALANCE
AUDIO: STEREO
SAP: OFF
SPEAKERS: ON
    
```

2. Press "-" button to decrease treble, or press "+" button to increase treble.



```

TREBLE
| | | | | | | | | | | | | | | |
    
```

"BASS" Adjustment

The "BASS" function adjusts the low frequency audio.

1. Press **AUDIO** button repeatedly until "-" and "+" marks move down next to the "BASS" function.



```

TREBLE
- BASS
BALANCE
AUDIO: STEREO
SAP: OFF
SPEAKERS: ON
    
```

2. Press "-" button to decrease bass, or press "+" button to increase bass.



```

BASS
| | | | | | | | | | | | | | | |
    
```

"BALANCE" Adjustment

The "BALANCE" function adjusts the left/right balance of sound from the speakers (either the TV's internal speakers or external speakers if they are connected to the TV.)

When adjusting the "BALANCE" function, sit in your normal viewing seat while pressing the "+" and "-" buttons until the sound seems to originate from a point halfway between the speakers.

The display may not indicate equal balance output at this setting, however, because what you hear is affected by the room acoustics.

1. Press **AUDIO** button repeatedly until the "-" and "+" marks move down next to the "BALANCE" function.



```

TREBLE
BASS
- BALANCE
AUDIO: STEREO
SAP: OFF
SPEAKERS: ON
    
```

2. Press "-" to increase sound level from left speaker, or press "+" to increase sound from right speaker.



```

L BALANCE R
| | | | | | | | | | | | | | | |
    
```

Helpful Hints

- Display will automatically disappear from the TV screen in a few seconds after you have finished making your adjustments. To make it disappear more quickly, press either the **TV** button or **CLEAR** button.
- The "VOLUME", "TREBLE", "BASS", and "BALANCE" functions control the TV's internal speakers, the TV's external speakers (if connected to TV's speaker jacks), and an amplifier (if connected to TV's jacks labeled **TO HI-FI**).

You're ready to enjoy this new dimension in television with your new stereo TV. Your TV is fully capable of reproducing stereo sound from TV stations transmitting stereo sound in your area. All you have to do to enjoy stereo sound is make sure the TV's "AUDIO: STEREO/MONO" function is set to "STEREO" so the TV can receive stereo broadcasts.

Normally this function can be left in the "STEREO" mode. Your TV will then automatically reproduce either stereo or monaural sound—whatever is broadcast.

In some fringe viewing areas, however, the stereo signal may not be strong enough for quality reception. The signal may drift or the reproduction may become noisy. Should that occur, change the "AUDIO: STEREO/MONO" function to the "MONO" mode to receive clearer, cleaner sound.

Resetting the "AUDIO: STEREO/MONO" Function to Receive Stereo (with or without remote control)

1. Press **AUDIO** button repeatedly until "—" and "+" marks move down to "AUDIO: MONO/STEREO".



TREBLE
BASS
BALANCE
- AUDIO: STEREO +
SAP: OFF
SPEAKERS: ON

2. Press either "—" or "+" to change "AUDIO:" from "MONO" to "STEREO".

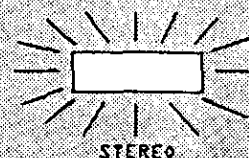
Note: Each time you press the "—" or "+" button, "AUDIO:" will change from "MONO" to "STEREO" or "STEREO" to "MONO".



TREBLE
BASS
BALANCE
- AUDIO: MONO +
SAP: OFF
SPEAKERS: ON

Note: When your TV is set to "STEREO", it will let you know two ways whenever a channel is being broadcast and received in stereo:

- The **STEREO** light on the front of the TV will come on, and



- The word "STEREO" will appear next to the channel number on the screen. (Press **TV** button to see channel number.)

3:29 PM STEREO 07

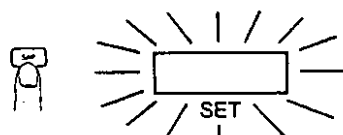
Receiving SAP Broadcasts

**AUDIO
Button**

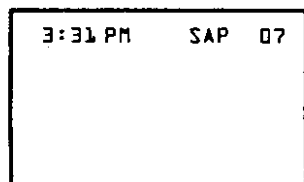
Some TV stations broadcast another sound channel called SAP (Second Audio Program). The SAP audio is sometimes used to broadcast a second sound track for a bilingual movie.

Whenever your TV is receiving SAP audio, the *SAP* light on the front of the TV will come on. (The "AUDIO: STEREO/MONO" function must be in "STEREO" mode for *SAP* light to come on—unless *SAP* button has been pressed.)

If you want to hear the SAP audio instead of the regular audio, press the *SAP* button on the remote control. The *SET* light on the front of the TV will come on to let you know SAP is set, and your TV will reproduce the SAP audio instead of the regular audio, if it is being broadcast.



Whenever you have the SAP function turned on and your TV is receiving SAP audio, the word "SAP" will appear on the screen next to the channel number.



Your TV will reproduce the SAP audio until you change channels or until you press the *SAP* button again.

You can also turn on the SAP audio without using the remote control by selecting the "SAP OFF/SET" function in the *AUDIO* menu.

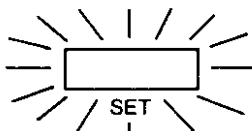
Turning on SAP Channel

(with remote control)

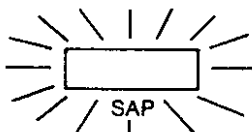
1. Press *SAP* Button on remote control to turn on SAP.



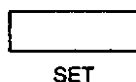
- The *SET* light will come on to let you know your set is ready to receive SAP audio whenever it is broadcast.



- The *SAP* light will come on when a SAP channel is being received.

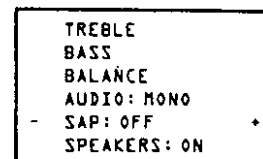


2. Press *SAP* button again to turn off SAP.
Note: *SET* light will go off.

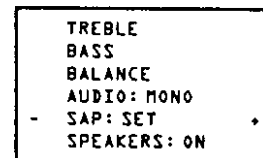


(without remote control)

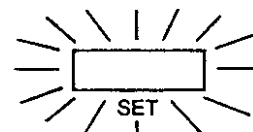
1. Press *AUDIO* button on front of TV set repeatedly until "—" and "+" marks move down to "SAP: OFF/SET" function.



2. Press either "—" or "+" to turn SAP on ("SET"). Press "—" or "+" again to turn SAP "OFF".
Note: Each time you press the "—" or "+" button, SAP will change from "OFF" to "SET" or "SET" to "OFF".



3. When the SAP function is "SET" (on), the *SET* light comes on to let you know your set is ready to receive a SAP channel whenever it is broadcast.



Notes

- Changing channels turns off the "SAP" function.
- If you press the *SAP* button and a Second Audio Program is not being transmitted, the TV will reproduce normal audio.
- Changing the *AUDIO* function from *STEREO* to *MONO* mode also turns off the "SAP" function.
- SAP is only broadcast in mono audio.

Sound from your TV comes through the TV's internal speakers unless you turn the speakers off.

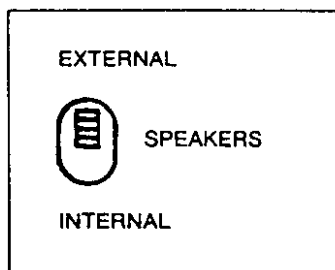
You will normally leave the TV's internal speakers turned on unless you connect either:

- 1) a separate set of external speakers to the speaker jacks on the back of the TV or
- 2) an amplifier (with its own set of speakers) to the appropriate jacks on the back of the TV.

Turning Off TV's Internal Speakers

(when connecting external speakers to back of TV)

If you connect a separate set of speakers to the TV's speaker jacks, move the **SPEAKERS** switch on the back of the TV to the **EXTERNAL** position.



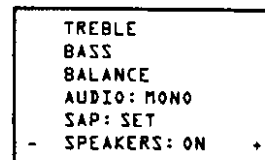
This turns off the TV's internal speakers and allows sound to come through the external speakers connected to the TV.

Note: Detailed information about connecting external speakers to the TV is on page 40.

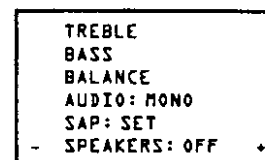
(when connecting amplifier to TV)

If you connect an amplifier (with separate speakers connected to the amplifier), you may want to turn off the TV's speakers so sound will only come through the speakers connected to the amplifier.

1. Press **AUDIO** button repeatedly until “-” and “+” marks move down to line labeled “SPEAKERS: ON/OFF”.



2. Press “-” or “+” button to turn off TV's speakers.



This turns off not only the TV's internal speakers but also any external speakers connected to the TV. Sound will then come through the speakers connected to the amplifier, since the TV's speakers are turned off.

Note: Press “-” or “+” button again to turn speakers back on.



SETUP Button - General Instructions

Your TV is so automatic that when you press the **SETUP** button on the front of the TV, only functions that can be controlled without the remote appear on the screen.

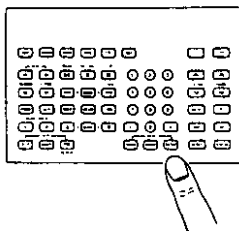
Some Setup functions need the remote's number buttons (0-9) and only appear in the Setup Menu when you press the **SETUP** button on the remote.

Shown here are the Setup Menus that appear when you press each of the **SETUP** buttons.

Detailed instructions for each function begin on the next page.

Using **SETUP** Button

(with remote)



Note: Remote control must be in "TV Mode" or Setup Menu will not appear. To put remote in "TV Mode", press the TV button.

1. Press **SETUP** button once to get the first Setup Menu.

1 SLEEP TIMER
2 ALARM SET
3 PARENTAL CONTROL
4 AUTOPROGRAM
5 ANTENNA: INPUT A
PUSH SETUP FOR MORE

—OR—



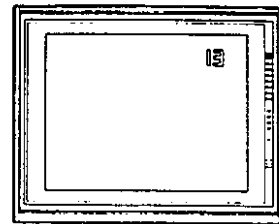
Press **SETUP** button again to get the second Setup Menu:

1 CLOCK SET
2 CHANNEL MEMORY
3 PICTURE MEMORY
4 CABLE/AIR: AIR
5 MESSAGE STYLE
6 AUTOCOLOR: ON

2. Enter corresponding number button to select function.

Note: Menus automatically disappear from the screen a short time after final adjustment is made. To make menu disappear more quickly, press either the **TV** or **CLEAR** button.

(without remote)



1. Press **SETUP** button once to get Setup Menu.

- SLEEP TIMER +
PICTURE MEMORY
AUTOPROGRAM
CABLE/AIR: AIR
MESSAGE STYLE
ANTENNA: INPUT A

2. Continue pressing **SETUP** button to move "-" and "+" marks to next function.

SLEEP TIMER
PICTURE MEMORY
- AUTOPROGRAM +
CABLE/AIR: AIR
MESSAGE STYLE
ANTENNA: INPUT A

3. Press "-" or "+" button to adjust or change function.

Note: Menus automatically disappear from the screen a short time after final adjustment is made. To make menu disappear more quickly, repeatedly press the **SETUP** button.

Setting the Sleep Timer

**SETUP
Button**

By setting the Sleep Timer, you can program your TV to turn itself off after a certain period of time (up to six hours).

This is useful whenever you want to watch TV for an hour or so before going to sleep.

Setting Sleep Timer

(with remote)

1. Press **SETUP** button on remote control once.
2. Press number button "1" to select "SLEEP TIMER".



1 SLEEP TIMER
2 ALARM SET
3 PARENTAL CONTROL
4 AUTOPROGRAM
5 ANTENNA: INPUT A
PUSH SETUP FOR MORE

3. Press "+" button to select length of time (up to six hours) you want TV to stay on.
 - Each time you press the "+" button, the time will increase 30 minutes.
 - Each time you press the "-" button, the time will decrease 30 minutes.



SLEEP TIMER: 0:00
PUSH + TO INCREASE
PUSH - TO DECREASE

4. When finished, the display will automatically disappear from the screen in about 30 seconds. To make it disappear more quickly, press the **TV** button.

5. The Sleep Timer will begin to count down to zero, and the time remaining will appear in the on-screen display whenever you change channels or press the **TV** button.



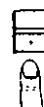
11:16 AM 12
SLEEP 0:13

6. When the Sleep Timer counts down to zero, a display of 0:00 will appear on the screen for 10 seconds. Then the TV will turn itself off.

If you want the TV to stay on when the 0:00 display appears, press the **TV** button on the remote. The Sleep Timer will be cancelled.

(without remote)

1. Press **SETUP** button on front of TV.
2. Press "-" or "+" to select "SLEEP TIMER".



- SLEEP TIMER +
PICTURE MEMORY
AUTOPROGRAM
CABLE/AIR: AIR
MESSAGE STYLE
ANTENNA: INPUT A

3. Press "+" button to select length of time (up to six hours) you want TV to stay on.
 - Each time you press the "+" button, the time will increase 30 minutes.
 - Each time you press the "-" button, the time will decrease 30 minutes.



SLEEP TIMER: 0:00
PUSH + TO INCREASE
PUSH - TO DECREASE

4. When finished, the display will automatically disappear from the screen in about 30 seconds. To make it disappear more quickly, press the **VOL** ∇ button.

5. The Sleep Timer will begin to count down to zero, and the time remaining will appear in the on-screen display whenever you change channels or press the **TV** button on the remote.



11:16 AM 12
SLEEP 0:13

6. When the Sleep Timer counts down to zero, a display of 0:00 will appear on the screen for 10 seconds. Then the TV will turn itself off.

If you want the TV to stay on when the 0:00 display appears, press the **TV** button on the remote. The Sleep Timer will be cancelled.

Clearing Sleep Timer (before 10-second warning)



To cancel the sleep timer before the 10-second warning, first enter the "SLEEP TIMER" function as described above in Steps 1, 2 and then press the **CLEAR** button on the remote control.

By setting the Alarm, you can program the TV to turn on and/or off by itself. This is useful whenever you want:

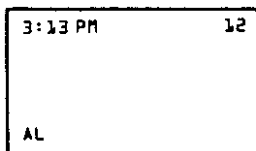
- 1) the TV to turn itself on each morning at a certain time (like an alarm clock).
- 2) the TV to turn itself off each night at a certain time so you won't fall asleep and leave the TV on all night.
- 3) the TV to turn itself on or change channels at a certain time so you don't forget to watch a special show.

The clock must be set before you can set the alarm. If you try to set the alarm without first setting the clock, the TV will automatically prompt you to set the clock.

If you have already set the clock as described on page 27, the TV will prompt you to set the alarm.

Your TV lets you know when the alarm is turned on.

- If the TV is playing, the on-screen display will show "AL" (alarm) whenever you press the TV button or change channels.

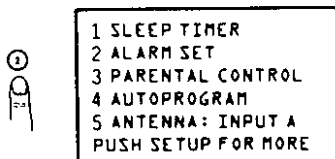


- If the TV is turned off, the power light will blink every 8 seconds to let you know the alarm is set.

A. Setting Alarm to Turn TV On and Off (with remote only)

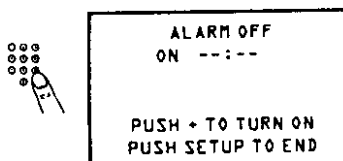
1. Press **SETUP** button once to bring Setup Menu to screen.

2. Press number button "2" to select "ALARM SET".



Note: If the clock is not set, the Clock Set display will appear on the screen. If this happens, first set the clock as described on page 26, and then start again with Step 1 above.

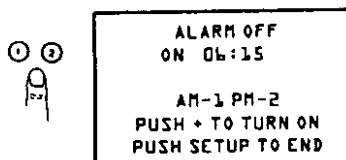
3. Enter time you want TV to turn on by pressing four number buttons. For example—if you want the TV to turn on at 6:15 AM, press "0", "6", "1", "5".



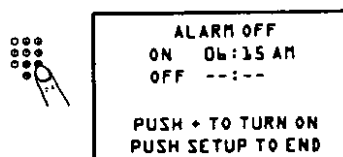
Note: If you press an incorrect number button while setting the alarm, press the **CLEAR** button on the remote, and then enter the correct time.

4. Choose "AM" or "PM" by pressing number button "1" for AM (morning) or "2" for PM (afternoon).

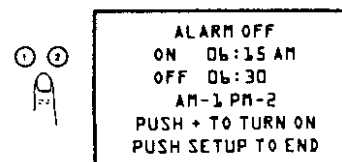
Note: Noon is 12:00 PM.



5. Enter time you want TV to turn off by pressing four number buttons.

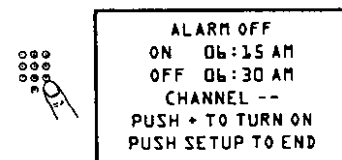


6. Select "AM" or "PM" by pressing number button "1" for AM or "2" for PM.

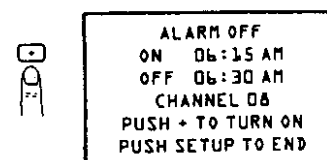


7. Enter the channel you want to come on when the alarm time is reached.

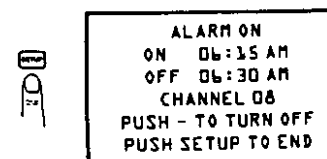
Note: Remember to press two number buttons such as "0" then "6" for Channel 6.



8. Push "+" button to turn alarm on. The top line in the on-screen display will change from "ALARM OFF" (red) to "ALARM ON" (green).



9. Press **SETUP** button when finished.



10. See notes on next page.

Setting the Alarm (cont)

Helpful Hints

- Don't forget to turn the Alarm "ON" by pressing the "+" button. The alarm function does not work unless the alarm is turned on (green). Pressing "-" turns off the alarm (red).
- Once the Alarm is set and turned "on", it will turn on the set every day at the preset time. If you don't want the TV to turn on the next day, don't forget to disable the alarm. See "Turning Off Alarm" section below.
- When the set turns on at the alarm time, the volume level will be the same as when the set was last turned off.
- If the TV is already playing at the turn-on time, it will automatically switch to the channel you entered in the alarm timer.
- When the alarm is programmed, it can be turned off and on without erasing the time and channel information by pushing the "-" or "+" key as prompted by the on-screen display.
- To change the time and channel information, first enter the Alarm function by pressing **SETUP** then "2". Then press **CLEAR** and re-enter the new time and channel information.

B. Setting Alarm for TV to Turn Off Only

(with remote only)

```
ALARM ON
ON  00:00
OFF 11:00 PM

PUSH - TO TURN OFF
PUSH SETUP TO END
```

If you enter "0000" for the "ON" time, the TV will not turn itself on. It will, however, turn itself off (if it is playing) at whatever "OFF" time you set.

Note: This is convenient if you want the TV to turn itself off each night at a certain time.

C. Setting Alarm for TV to Automatically Change Channels at a Certain Time

(with remote only)

```
ALARM ON
ON  08:00 AM
OFF 00:00
CHANNEL 12

PUSH - TO TURN OFF
PUSH SETUP TO END
```

If you enter "0000" for the "OFF" time, the TV will not turn itself off. It will, however, come on (or change channels) at whatever "ON" time you set and stay on until you turn it off.

Turning Off Alarm

Turning Off Alarm Before It Turns TV On or Off

1. Press **SETUP** then "2" on the remote control to enter the Alarm function.
2. Then press "-" to turn off alarm. Pressing "-" will not erase the time and channel information.

The letters "AL" will disappear from the on-screen display to let you know the alarm has been turned off.

The alarm will remain off until you turn it on again.

Turning Off Alarm After It Turns TV On

There are two ways to turn off the alarm whenever it turns on the TV.

A. Press **OFF** on remote.

This way simply turns off the TV but *leaves the alarm turned "on"* so it will activate the TV again the next day.

B. Press **CLEAR** on remote within 20 seconds after alarm turns TV on.

This way turns off the alarm so it will not function again until you turn alarm back on. The TV remains on.

Setting PARENTAL CONTROL

(Remote Only)

**SETUP
Button**

The Parental Control lets you block out up to six channels from the Channel Memory.

Channels that have been blocked out can be viewed only by using the remote control—they cannot be viewed by using the controls on the front of the TV.

Therefore, you simply take away the remote control so that your children can not watch the blocked channels.

Although you can turn Parental Control on and off as desired, some parents prefer to leave it turned on all the time. That way, they can allow or disallow viewing of the blocked channels simply by giving or taking away the remote control.

The blocked channels will remain in memory even if the TV is unplugged, or the channels are autoprogrammed again. So, your children will not be able to access the blocked channels unless you give them the remote control.

Helpful Hint

Remember that whenever you turn on the TV, it automatically tunes to the channel you were watching last. Therefore, if the TV is turned off when you remove the remote, check to make sure that the TV does not turn on tuned to a blocked channel. If it does, simply change TV to an unblocked channel and then turn off TV.

Blocking Channels From Channel Memory

(with remote only)

1. Press **SETUP** button once.



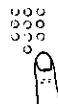
2. Press number button "3" to select **PARENTAL CONTROL**.



1 SLEEP TIMER
2 ALARM SET
3 PARENTAL CONTROL
4 AUTOPROGRAM
5 ANTENNA: INPUT A
PUSH SETUP FOR MORE

3. Enter channel numbers you want blocked. Press two number buttons for each channel.

Note: Press **CLEAR** button if you make a mistake or want to change channel numbers.



PARENTAL CONTROL OFF
CHANNELS BLOCKED:
-
PUSH + TO TURN ON
PUSH SETUP TO END

4. Press "+" button to turn on Parental Control (green).
Note: Channels will not be blocked unless Parental Control is turned "ON" (green).



PARENTAL CONTROL ON
CHANNELS BLOCKED:
30 16
PUSH + TO TURN ON
PUSH SETUP TO END

5. Press **SETUP** button when finished.



PARENTAL CONTROL ON
CHANNELS BLOCKED:
30 16
PUSH - TO TURN OFF
PUSH SETUP TO END

Note:

- Press **CLEAR** button to remove all channels from Parental Control during Step 3 or 4.

The "CHANNEL MEMORY" is the list of channel numbers your TV will stop on when you press the **CHANNEL** $\wedge$ or $\vee$ button. You can program any list of channels into the "CHANNEL MEMORY".

The quickest way to program the "CHANNEL MEMORY" is to use the "AUTOPROGRAM" function. If you use the "AUTOPROGRAM" function, your TV will automatically cycle through all channels and place active channels into the Channel Memory.

First follow the instructions to auto program channels, and then add or erase individual channels as desired.

Follow the instructions on the next page if you want to add or erase channels from the Channel Memory.



- The Autoprogramming feature will place into memory active channels that have a valid signal at the time you autoprogram your TV.
- An active channel may be missed occasionally if its signal is very weak or if the channel happens to be "off the air" when the TV is autoprogrammed.
- An inactive channel may be included in the channel memory if there happens to be some sort of "noise" or "stray signal" on the channel when the TV is autoprogrammed.
- Signals from scrambled cable channels can not be autoprogrammed.
- Signals from sources connected to the **INPUT** jacks can not be autoprogrammed. Channels 91, 92, and 93 must be added to memory as shown on the next page. Channel 91 was added to memory for you at the factory.

1. AutoProgramming Channels into Channel Memory

(with remote)

1. Connect home antenna and/or cable-TV to your set.
2. After you have turned on the TV and adjusted the volume, press the **SETUP** button on the remote control.
3. Press number button "4" on the remote to select "AUTOPROGRAM".



1 SLEEP TIMER
2 ALARM SET
3 PARENTAL CONTROL
4 AUTOPROGRAM
5 ANTENNA: INPUT A
PUSH SETUP FOR MORE

4. Press "+" to begin autoprogramming. The TV will cycle through available channels in your area and place them into the Channel Memory. If all available channels are of reasonable signal strength and you prefer not to add or erase any channels from memory, programming is complete.



AUTOPROGRAM
PUSH + TO BEGIN

Note: The TV will first program all channels for Antenna Input A and then program all channels for Antenna Input B (even if you only have one antenna input connected). The screen display will show which input (A or B) is being programmed.

AUTOPROGRAM
IN PROGRESS
CHANNEL 00
ANTENNA: INPUT A

AUTOPROGRAM
IN PROGRESS
CHANNEL 00
ANTENNA: INPUT B

Note: Your TV will automatically establish two separate channel memories—one for Input A (Antenna A) and one for Input B (Antenna B).

5. When the TV is finished cycling, you can check to see what channels are in memory by pressing the **CHANNEL** $\wedge$ or $\vee$ button. Your set will stop on each of the channels in memory.

(without remote)

1. Connect home antenna and/or cable-TV to your set.
2. After you have turned on the TV and adjusted the volume, press the **SETUP** button on the TV repeatedly until the "-" and "+" marks move down next to "AUTO PROGRAM".



SLEEP TIMER
PICTURE MEMORY
- AUTO PROGRAM +
CABLE/AIR: AIR
MESSAGE STYLE
ANTENNA: INPUT A

3. Press "+" to begin autoprogramming. The TV will cycle through available channels in your area and place them into the Channel Memory. If all available channels are of reasonable signal strength and you prefer not to add or erase any channels from memory, programming is complete.



AUTOPROGRAM
PUSH + TO BEGIN

Note: The TV will first program all channels for Antenna Input A and then program all channels for Antenna Input B (even if you only have one antenna input connected). The screen display will show which input (A or B) is being programmed.

AUTOPROGRAM
IN PROGRESS
CHANNEL 00
ANTENNA: INPUT A

AUTOPROGRAM
IN PROGRESS
CHANNEL 00
ANTENNA: INPUT B

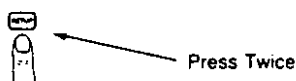
Note: Your TV will automatically establish two separate channel memories—one for Input A (Antenna A) and one for Input B (Antenna B).

4. When the TV is finished cycling, you can check to see what channels are in memory by pressing the **CHANNEL** $\wedge$ or $\vee$ button. Your set will stop on each of the channels in memory.

2. Erasing/Adding Channels in Channel Memory

(with remote only)

1. Press **SETUP** button on the remote twice to get to the second menu.



2. Press number button "2" to select "CHANNEL MEMORY".



1 CLOCK SET
2 CHANNEL MEMORY
3 PICTURE MEMORY
4 CABLE/AIR: AIR
5 MESSAGE STYLE
6 AUTOCOLOR: ON

4. Push "-" button to erase channel from memory.



5. To add channel, enter two number buttons for the channel you want to add. For example, press "0" then "6" for Channel 6.



CHANNEL MEMORY

PUSH + TO STORE 06

3. To erase channel, press **CHANNEL** $\wedge$ or $\vee$ button until channel you want to erase appears.



CHANNEL MEMORY

PUSH - TO ERASE 12

6. Press "+" button to add channel to channel memory.



3. Adding Video Input Channels to Channel Memory

(with remote only)

If you have video devices connected to the **INPUT** jacks on the back of the TV, you can view their signals either by directly selecting Channel 91 (for Input 1), 92 (for Input 2), or 93 (for Input 3) with the number buttons or by adding these channels to Channel Memory.

Adding the Input Channels (91, 92, 93) to Channel Memory allows access to them at the TV as well as the remote control.

Your TV has two separate antenna inputs on the back (labeled *ANTENNA A/CABLE* and *ANTENNA B*) that allow you to connect two different signal sources if desired. For example, you can connect a cable-TV system to one input and a home antenna to the other input.

By changing the "ANTENNA: INPUT" function in the **SETUP** menu, you can switch back and forth between the two signal sources.

Listed below are some other common uses of the two antenna inputs:

1. connecting a cable-TV system (or antenna) to one input and a VCR to the other.
2. connecting a cable-TV system (or antenna) to one input and a video game to the other.
3. connecting a double-trunk cable system to both inputs.

The Channel Memory is the list of channels your TV will stop on when you press the *CHANNEL* Δ/∇ buttons. Your TV provides two separate Channel Memories—one for Input A (Antenna A) and one for Input B (Antenna B). This allows you to add and delete channels into each channel memory as desired.

When you use the "AUTOPROGRAM" function, the TV automatically checks both inputs and sets up a separate channel memory for each.

When switching from one input to another, your TV automatically returns to the channel that was last viewed on that input.

Changing "ANTENNA" Input

(with remote)

1. Press the **SETUP** button on the remote control once.



2. Press number button "5" on the remote to switch from the *ANTENNA A* input to the *ANTENNA B* input.



1 SLEEP TIMER
2 ALARM SET
3 PARENTAL CONTROL
4 AUTOPROGRAM
5 ANTENNA: INPUT A
PUSH SETUP FOR MORE

The screen display will change from "INPUT A" to "INPUT B" to let you know you're now watching whatever signal is connected to the *ANTENNA B* input on the back of the TV.

Press number button "5" again to switch back to the *ANTENNA A* input.

3. To quickly remove the Setup Menu from the screen, press the **TV** button on the remote control.

(without remote)

1. Press the **SETUP** button on the TV repeatedly until the "-" and "+" marks move down to "ANTENNA: INPUT A/B".



SLEEP TIMER
PICTURE MEMORY
AUTOPROGRAM
CABLE/AIR: AIR
MESSAGE STYLE
- ANTENNA: INPUT A +

2. Press the "-" or "+" button to switch from "A" to "B". The screen display will change from "INPUT A" to "INPUT B" to let you know you are now watching whatever signal is connected to the *ANTENNA B* jack on the back of the TV.



SLEEP TIMER
PICTURE MEMORY
AUTOPROGRAM
CABLE/AIR: AIR
MESSAGE STYLE
- ANTENNA: INPUT B +

3. Press the "-" or "+" button again to switch back to *ANTENNA A*. The screen display will change back to "INPUT A" to let you know you are now watching whatever signal source is connected to the *ANTENNA A* jack on the back of the TV.



SLEEP TIMER
PICTURE MEMORY
AUTOPROGRAM
CABLE/AIR: AIR
MESSAGE STYLE
- ANTENNA: INPUT A +

Setting the Clock (remote control only)

After you set the clock, you'll be able to see the on-screen time display whenever you press the *TV* button on the remote control.

Setting the clock also enables you to use the alarm feature explained on page 21.

If power is interrupted for an extended period of time, you will need to reset the clock.

Setting the Clock

(with remote only)

1. Press *SETUP* button on remote control twice to get to second menu.



2. Press number button "1" to select "CLOCK SET".



1 CLOCK SET
2 CHANNEL MEMORY
3 PICTURE MEMORY
4 CABLE/AIR: AIR
5 MESSAGE STYLE
6 AUTOCOLOR: ON

3. Press four number buttons in order to enter correct time. For example—if the current time is 2:13, press "0", then "2", then "1", then "3".



CLOCK SET
TIME --:--

PUSH SETUP TO END

Note: If you press the wrong number by mistake, press the *CLEAR* button on the remote.

4. Press number button "1" for AM (morning) or "2" for PM (afternoon).

Note: Noon is 12:00 PM.



CLOCK SET
TIME 02:13

AM-1 PM-2

PUSH SETUP TO END

Note: When you enter the AM or PM, the seconds will be automatically set to zero, and the clock will start.

5. Press *SETUP* button when finished.



CLOCK SET
TIME 02:13 PM

PUSH SETUP TO END

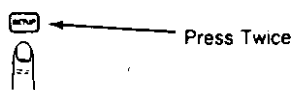
After you have adjusted the video functions ("COLOR", "TINT", "CONTRAST", "BRIGHTNESS", and "SHARPNESS") to your liking, you can program those settings into "PICTURE MEMORY", so that pressing the *RESET* button on the remote will automatically change the video functions to whatever settings you programmed into "PICTURE MEMORY". This is very useful in case someone changes your settings accidentally.

Your TV also remembers how the video functions were set when you took it out of the box. Whenever you want to change the video function settings in Picture Memory back to the original (out-of-box) settings, follow the instructions on the next page.

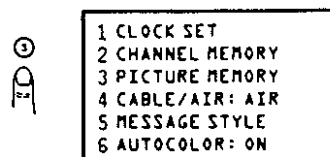
Programming Preferred Video Adjustments into "PICTURE MEMORY"

(with remote)

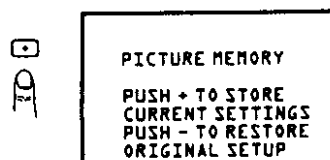
1. After you have adjusted the video functions to your liking, press the *SETUP* button twice to get to the second menu.



2. Press number button "3" to select "PICTURE MEMORY".



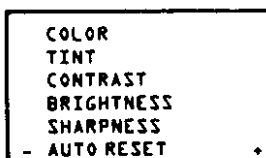
3. Push "+" button to store current settings into "PICTURE MEMORY".



4. Now whenever you press the *RESET* button on the remote, your TV will automatically change "COLOR", "TINT", "CONTRAST", "BRIGHTNESS", and "SHARPNESS" to whatever settings you programmed into "PICTURE MEMORY".



If the remote control is not handy, you can also use the "AUTO RESET" function in the Video Menu to reset functions to whatever settings you programmed into "PICTURE MEMORY".

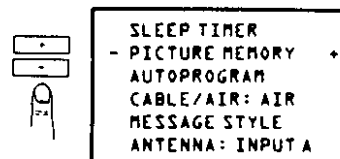


(without remote)

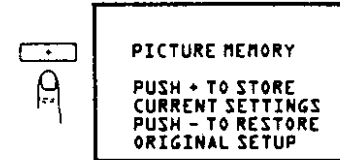
1. After you have adjusted the video functions to your liking, press the *SETUP* button on the TV until the "-" and "+" marks move down next to "PICTURE MEMORY".



2. Press "-" or "+" to select "PICTURE MEMORY".



3. Push "+" button to store current settings into "PICTURE MEMORY".



4. Now whenever you press the *RESET* button on the remote, your TV will automatically change "COLOR", "TINT", "CONTRAST", "BRIGHTNESS", and "SHARPNESS" to whatever settings you programmed into "PICTURE MEMORY".



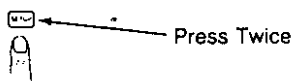
If the remote control is not handy, you can also use the "AUTO RESET" function in the Video Menu to reset functions to whatever settings you programmed into "PICTURE MEMORY".



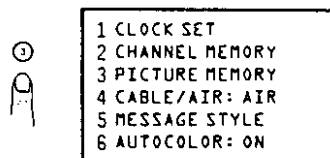
Retuning Video Functions to Original (Out-of-Box) Positions

(with remote)

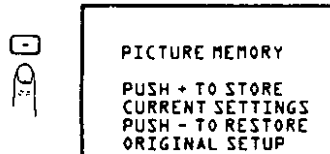
1. Press the **SETUP** button twice to get to the second menu.



2. Press number button "3" to select "PICTURE MEMORY".



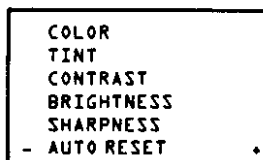
3. Push "-" button to restore original (out-of-box) settings into "PICTURE MEMORY". Any previously stored "preferred" settings will be erased.



4. Now whenever you press the **RESET** button on the remote, your TV will automatically change "COLOR", "TINT", "CONTRAST", "BRIGHTNESS", and "SHARPNESS" to the original (out-of-box) settings.

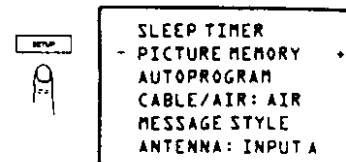


Note: If the remote is not handy, you can also use the "AUTO RESET" function in the Video Menu to reset functions.

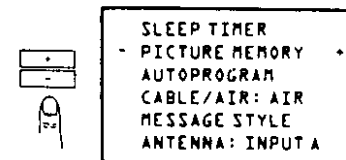


(without remote)

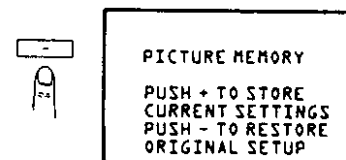
1. Press the **SETUP** button on the TV repeatedly until the "-" and "+" marks move down next to "PICTURE MEMORY".



2. Press "-" or "+" button to select "PICTURE MEMORY".



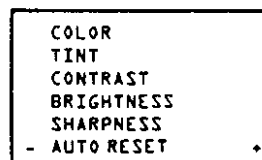
3. Push "-" button to restore original (out-of-box) settings into "PICTURE MEMORY". Any previously stored "preferred" settings will be erased.



4. Now whenever you press the **RESET** button on the remote, your TV will automatically change the picture settings to the original (out-of-box) settings.



Note: If the remote is not handy, you can also use the "AUTO RESET" function in the Video Menu to reset functions.



Your TV is so automatic that you will probably never need to change this function. That's because when you use the "AUTOPROGRAM" function, your TV automatically adjusts the "CABLE/AIR" setting for you.

The "CABLE/AIR" function tells your TV whether you have a cable-TV system or a home antenna connected to it.

During "AUTOPROGRAM", the TV will automatically determine whether cable signals, antenna (air) signals, or both are being received. It will then automatically set the "CABLE/AIR" function.

When the "CABLE/AIR" function is set to "CABLE", it allows the TV to receive cable channels. When the "CABLE/AIR" function is set to "AIR", it allows the TV to receive whatever TV channels (VHF and UHF) are broadcast in your area.

When you use the "AUTOPROGRAM" function, your TV automatically determines what you have connected (cable-TV or home antenna) no matter what position the "CABLE/AIR" function is set to.

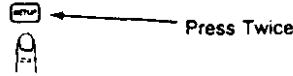
Normally, you will never need to use this function if you use the "AUTOPROGRAM" feature.

However, the "CABLE/AIR" function allows you to override the automatic settings and thus provides maximum flexibility should you desire to use your TV for special applications.

Changing "CABLE/AIR" Function

(with remote)

1. Press **SETUP** button twice to get to the second Setup Menu.



2. Press number button "4" to change "CABLE/AIR" function.



1 CLOCK SET
2 CHANNEL MEMORY
3 PICTURE MEMORY
4 CABLE/AIR: AIR
5 MESSAGE STYLE
6 AUTOCOLOR: ON

Note: The "CABLE/AIR" function will change each time you press number button "4".

(without remote)

1. Press **SETUP** button on front of TV repeatedly until the "-" and "+" marks move down to the "CABLE/AIR" function.



SLEEP TIMER
PICTURE MEMORY
AUTOPROGRAM
- CABLE/AIR: AIR -
MESSAGE STYLE
ANTENNA: INPUT A

2. Press "-" or "+" button to change function from "AIR" to "CABLE".



SLEEP TIMER
PICTURE MEMORY
AUTOPROGRAM
- CABLE/AIR: CABLE -
MESSAGE STYLE
ANTENNA: INPUT A

Note: The "CABLE/AIR" function will change each time you press the "-" or "+" button.

Changing "MESSAGE STYLE"

**SETUP
Button**

Two different message styles are available for the on-screen displays, and you can choose the one you like best.

One style is "edged" and looks like this:

```

1 CLOCK SET
2 CHANNEL MEMORY
3 PICTURE MEMORY
4 CABLE/AIR: AIR
5 MESSAGE STYLE
6 AUTOCOLOR: ON
    
```

The other style is "blocked" and looks like this:

```

1 CLOCK SET
2 CHANNEL MEMORY
3 PICTURE MEMORY
4 CABLE/AIR: AIR
5 MESSAGE STYLE
6 AUTOCOLOR: ON
    
```

Changing "MESSAGE STYLE"

(with remote)

1. Press **SETUP** button twice to get to second menu.



```

1 CLOCK SET
2 CHANNEL MEMORY
3 PICTURE MEMORY
4 CABLE/AIR: AIR
5 MESSAGE STYLE
6 AUTOCOLOR: ON
    
```

2. Press number button "5" to change "MESSAGE STYLE".



```

1 CLOCK SET
2 CHANNEL MEMORY
3 PICTURE MEMORY
4 CABLE/AIR: AIR
5 MESSAGE STYLE
6 AUTOCOLOR: ON
    
```

3. Press number button "5" again to change back.



```

1 CLOCK SET
2 CHANNEL MEMORY
3 PICTURE MEMORY
4 CABLE/AIR: AIR
5 MESSAGE STYLE
6 AUTOCOLOR: ON
    
```

4. Choose the style you like best, and then press the **TV** button when finished.



(without remote)

1. Press **SETUP** button on front of TV repeatedly until the "-" and "+" marks move down next to the "MESSAGE STYLE" function.



```

SLEEP TIMER
PICTURE MEMORY
AUTOPROGRAM
CABLE/AIR: AIR
- MESSAGE STYLE +
ANTENNA: INPUT A
    
```

2. Press either "-" or "+" to change styles.



```

SLEEP TIMER
PICTURE MEMORY
AUTOPROGRAM
CABLE/AIR: AIR
- MESSAGE STYLE +
ANTENNA: INPUT A
    
```

3. Press either "-" or "+" again to change back to first style.



```

SLEEP TIMER
PICTURE MEMORY
AUTOPROGRAM
CABLE/AIR: AIR
- MESSAGE STYLE +
ANTENNA: INPUT A
    
```

4. Choose the style you like best, and then wait a few seconds until the display disappears from the screen. To make the display disappear more quickly, press the **VOLUME** ^ or v button.

The Autocolor feature automatically monitors and adjusts color to maintain constant color levels even after program or channel changes. It also maintains natural fleshtones while preserving fidelity of background colors.

Turning "AUTOCOLOR" On and Off

(with remote only)

1. Press **SETUP** button on remote control twice to get to second menu.



Press Twice

2. Press number button "6" to turn off "AUTOCOLOR".



1 CLOCK SET
2 CHANNEL MEMORY
3 PICTURE MEMORY
4 CABLE/AIR: CABLE
5 MESSAGE STYLE
6 AUTOCOLOR: OFF

3. Press number button "6" again to turn on "AUTOCOLOR".

Note: "AUTOCOLOR" will turn "ON" or "OFF" each time you press number button "6".

1 CLOCK SET
2 CHANNEL MEMORY
3 PICTURE MEMORY
4 CABLE/AIR: CABLE
5 MESSAGE STYLE
6 AUTOCOLOR: ON

Note: For best picture performance, leave the "AUTOCOLOR" function turned "ON".

Additional Operating Notes

Using “-” and “+” Buttons on Front of TV



The “-” and “+” buttons are used after you have pressed one of the three *MENU* buttons (*AUDIO*, *VIDEO*, *SETUP*) to change settings or make adjustments.

Whenever a menu or display disappears from the screen, the “-” and “+” buttons on the front of the TV automatically become the *CHANNEL* $\wedge/\vee$ buttons. If the “-” or “+” button on the TV is pressed after the display has disappeared, the TV will change channels.

If you want to make additional adjustments after a display has disappeared, press one of the *MENU* buttons again to bring the display back to the screen. This will automatically activate the “-” and “+” buttons again.

Power Failures

These functions are not affected by power failures:

- Channels in Channel Memory
- Channels in Parental Control
- Status of Parental Control (on or off)
- Settings in Picture Memory
- Stereo/Mono Selection
- Cable/Air Selection
- Autocolor On/Off
- Speakers On/Off

These functions are not affected by brief power interruptions. After longer interruptions, the following occurs when power is restored:

Function	Condition After Extended Power Failure
• On/Off:	Set stays off when power comes back.
• Volume:	Volume returns to 1/3 of full volume.
• Channel:	Set goes to lowest channel in channel memory.
• Previous Channel:	PC information must be reset.
• Color, Tint, Sharpness, Contrast, Brightness:	Set goes to settings in Picture Memory.
• Bass, Treble, Balance:	Set goes to middle of range.
• SAP:	SAP turns off.
• Clock:	Clock stops; must be reset.
• Sleep Timer:	Timer turns off; must be reset.
• Alarm:	Alarm turns off; must be reset.
• Message Style:	Set goes to edged display.

Quickly Removing Displays from Screen



The Video, Audio, and Setup displays automatically disappear from the TV screen a few seconds after you have finished making your adjustments.

To make them disappear more quickly, press either the *TV* or *CLEAR* button on the remote control. If you want to make another adjustment, however, you can press either the *VIDEO*, *AUDIO*, or *SETUP* button again without waiting for the displays to disappear.

Last Function Memory



The TV has a special memory for all functions that display bar scales on the screen. The TV “remembers” which bar scale you adjusted last—even after the bar display has disappeared from the screen. So if you want to adjust the same function again, simply press the “-” or “+” button on the remote.

This applies to all the functions with bar scales: “COLOR”, “TINT”, “CONTRAST”, “BRIGHTNESS”, “SHARPNESS”, “TREBLE”, “BASS”, and “BALANCE”.

The memory clears, however, whenever the TV is turned off.

Automatic Demonstration

The Auto Demo feature lets you activate your TV to automatically demonstrate a variety of its on-screen displays and adjustments. You may want to use this feature to show off your new digitally-controlled TV to your friends.

Starting Auto Demo

1. Turn on TV.
2. Press and hold the *SETUP* button on the front of the TV.
3. While holding the *SETUP* button, press the *POWER* button.
4. Auto Demo will begin as soon as you release both buttons.

WELCOME TO A
DEMONSTRATION OF
OUR COMPLETE REMOTE
CONTROL SYSTEM

PUSH SETUP TO END

The TV will automatically display and adjust these functions.

1. Displays welcome message.
2. Displays Video Menu.
3. Adjusts *COLOR* control to maximum.
4. Adjusts *TINT* control to minimum.
5. Activates *AUTO RESET* function to restore *COLOR* and *TINT* controls.
6. Displays Audio Menu.
7. Changes *BALANCE* control to far right, then to far left, and then back to midpoint.
8. Shows first page of Setup Menu.

The demonstration takes about 1.5 minutes and will continue to repeat itself until you turn it off.

Turning Off Auto Demo

To turn off Auto Demo, press any button on the TV.

Note: The buttons on the remote control are not functional while the TV is in the Auto Demo mode. To turn off Auto Demo, you must press a button on the TV.



The Auto Demo feature can be turned off at any time during the demonstration by pressing any button on the TV.

However, if you turn Auto Demo off while the TV is adjusting the *BALANCE*, the *BALANCE* function may need to be adjusted back to your original setting.

SECTION II

***Monitor Jack Panel
and
Component Connections***

Tips To Read Before Connecting Components

Compatible Components

A wide variety of compatible RCA Video Cassette Recorders (VCR's) and Audio Components are available. Check with your RCA dealer for details.

Non-RCA components can also be connected to your TV. Refer to the component's owner's manual for the manufacturer's recommended hookup instructions.

Cables

Most video/audio connections between components can be made with shielded video and audio cables that have RCA-type phono connectors.



Standard Audio/Video Cable with RCA-type Phono Plugs (such as RCA #AH036)



Slip-on End



Screw-on End

Round 75-ohm coaxial cable

To connect S-VHS components, an S-VHS video cable having multipin connections is required.

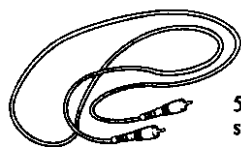


S-VHS Cable (such as RCA #186008)

- Antenna (or cable-TV) connections are made with either coaxial antenna cable or twin-lead cable as explained on page 3. Coaxial cables are shielded so they are less susceptible to hum or interference from adjacent cables.
- When connecting components to each other, be sure that you always connect left outputs to left inputs and right outputs to right inputs. If a component has only one output (mono), connect it to the *R/MONO* input jack.
- S-VHS (Super VHS) Components are connected with an S-VHS video cable having multipin connectors. When connecting S-VHS components with the S-VHS video cable, remember to also connect the audio cables.
- Cables are available from most RCA dealers and electronic supply stores. Before you purchase any cables, be sure you know what types of input and output connectors your components require and how long the cables need to be. Short cables are generally less expensive and also help avoid interference pick-up.
- Additional cables and extension cables are available from your RCA dealer if you need them.

Accessory Cables and Adapters

The following accessories are available from most RCA dealers in case you want to position your components further apart or need additional cables.



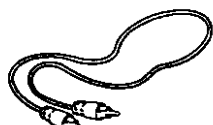
AH002

5-ft audio/video shielded cable with red RCA-phono plug at each end.



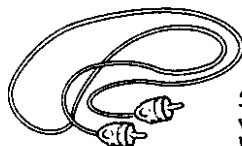
AH029

5-ft economy audio cable. Ideal for most audio applications. Use AH002 or AH036 for video applications.



AH036

3-ft coaxial video cable with RCA-type phono plugs.



RT008

5-ft coaxial audio/video cable with RCA-type phono plugs.



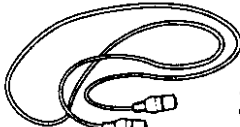
AH044

Provides for cable extension by connecting two cables with RCA-type phono plugs.



AH005

VCR dubbing cable for VHS-format VCR's. Use to duplicate tapes from one VHS-type VCR to another.



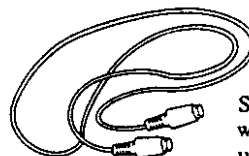
AH004

5-ft quick-connect coaxial antenna cable with push-on F-type male connectors.



AH037-3-ft AH007-6-ft AH008-9-ft AH009-16-ft

75-ohm coaxial antenna cable with screw-on F-type male connectors.



#186008

S-VHS video cable with S-connectors used to connect two S-VHS components.



AH023

Connector that joins two F-type coaxial cables.



AH024

Adapter that converts RF antenna cable for use as audio/video cable.



AH035

Anti-static cleaner/polisher that can be used on any hard, shiny, non-absorbent surface such as plastics, glass, mirrors, and chromed parts. Cleans and polishes TV screens and plastic cabinets. Returns brilliance, repels dust, and resists fingerprints.

Stacking Arrangements

If you are connecting several components and plan to use a component rack, follow these general rules when arranging your components.

- If the components are arranged horizontally, allow an inch or two of space between them so air can circulate freely. This will also provide enough space between the audio devices to minimize interference.
- If components are arranged vertically on shelves, place the Stereo Amplifier at the top so that heated air rising from it will not pass around the other components.
- Locate the VCR away from the audio components—on the far side of the TV or at least on the opposite side of the Amplifier.
- Do not block the ventilation holes in the components. If components are placed on rugs or deep-pile mats, the ventilation holes in the bottoms may be blocked and overheating could result.

Plugging in Power Cords

Do not plug any power cord into a wall outlet until you are finished making connections.

Many components have “convenience outlets” on their back panels so you can plug power cords from other components into a “convenience outlet” instead of the wall outlet.

Depending on the size of your system, you may prefer to use an extension cord or a “multiple adapter” to get enough outlets for all your components.

The power cords on your RCA components are “polarized” (one blade is wider than the other). Be sure the extension cord or multiple adapter is also polarized. The plug should fit in the outlet only one way.

Turn Off Power Before Connecting Components

Always turn off power to all components before you connect or disconnect any cables. This will protect your components from possible electrical surges that could damage your equipment.

This is a good practice for all your audio and video components—TV’s, VCR’s, Audio Systems, computers, etc.

Position Cables to Avoid Hum

The possibility of picking up hum (interference noise) in the audio/video cables will be reduced if you keep them away from the back of the TV. Route the cables to the sides of the TV’s back panel instead of straight down the middle.

All cable plugs should be firmly seated in the jacks where they connect to the equipment. If a plug is not connected firmly, audio hum or smeared video may result.

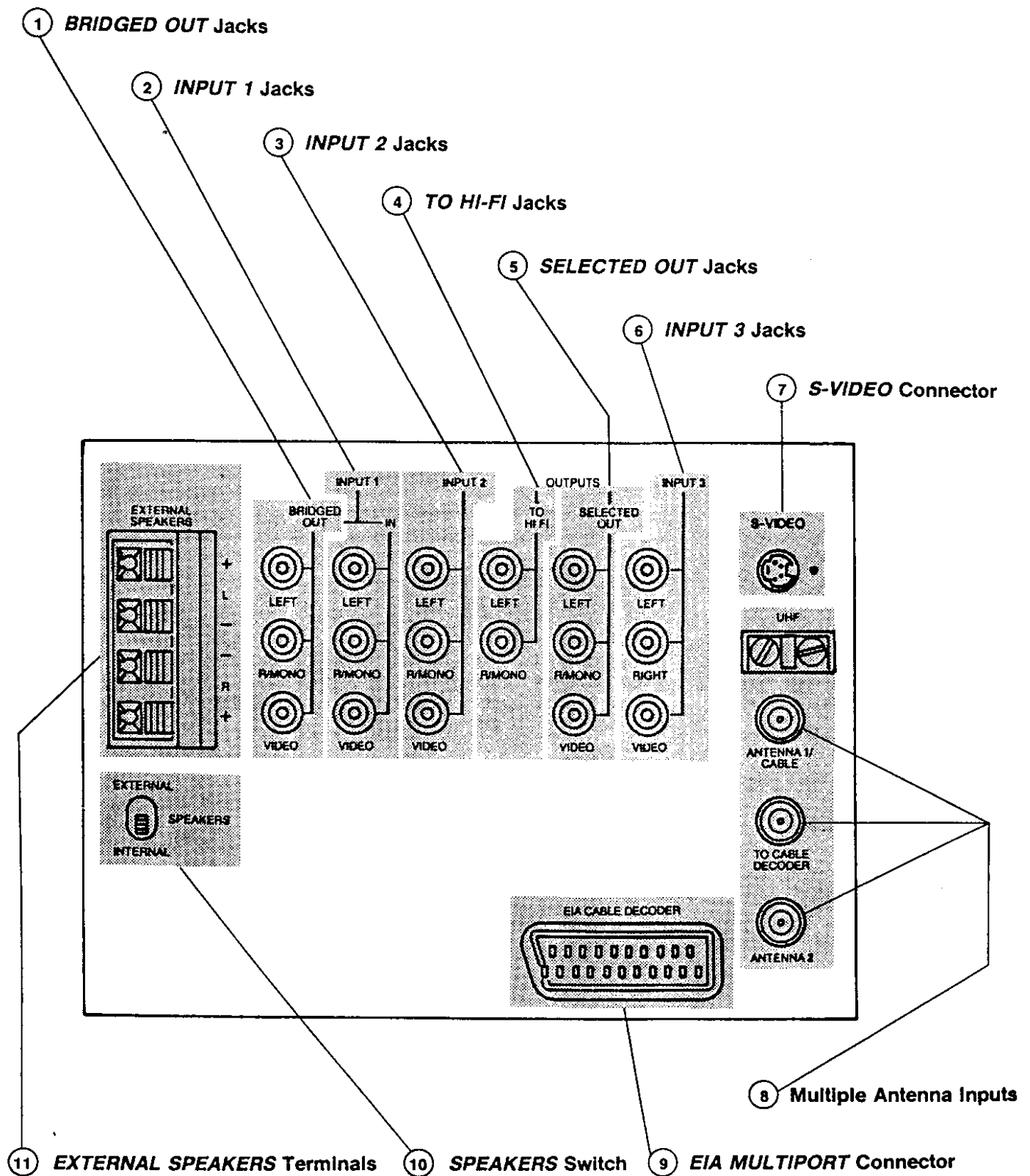
If your antenna cable is flat twin-lead cable, try to keep it away from the audio/video cables as much as possible. Excess flat, twin-lead cable should be cut off instead of coiled behind TV. Round, coaxial, antenna cable is usually shielded and can be coiled or placed next to audio/video cables without causing interference.

Position Speakers to Avoid Interference

Placing external speakers with unshielded magnets too close to the TV may result in the speaker magnets affecting the quality of the picture. Such speakers should be located at least eight inches away.

If unshielded speakers are too close to the TV, colored streaks will appear along the sides of the picture. If this happens, turn off the TV for a few minutes while moving the speakers further away. Then turn the TV back on.

Monitor Jack Panel



- ① **BRIDGED OUT Jacks**—feed signal from device connected to *INPUT 1* jacks to a VCR or another monitor. Provides useful output for tape dubbing, monitor “stringing”, and other applications. Automatic signal termination for video prevents image ghosts.

- ② **INPUT 1 Jacks**—provide for direct connection of audio/video devices or compatible home computer with audio/video outputs.

Signals from devices connected to *INPUT 1* jacks can be viewed by pressing the *TV* button followed by 9 then 1 on the remote control (or by scanning to TV channel 91 if you have added “91” to channel memory as described on page 25.)

Note: Your TV will automatically display signals from the *INPUT 1* jacks (or *S-VIDEO* connector) when you press the *VCR* button on the remote. See the Helpful Hint on page 43 for details.

- ③ **INPUT 2 Jacks**—provide for direct connection of audio/video devices or compatible home computer with audio/video outputs.

Signals from devices connected to *INPUT 2* jacks can be viewed by pressing the *TV* button followed by 9 then 2 on the remote control (or by scanning to TV channel 92 if you have added “92” to channel memory as described on page 25.)

- ④ **TO HI-FI Jacks**—feed volume-, bass-, treble-, mute-, and balance-controlled stereo audio out from whatever is displayed on the TV. Allow connection of

audio amplifier with convenient remote control of sound adjustments.

- ⑤ **SELECTED OUT Jacks**—provide fixed-level audio/video output from whatever is displayed on the TV. Let you feed signals to another device such as a VCR or second monitor.

- ⑥ **INPUT 3 Jacks**—provide for direct connection of audio/video devices or compatible home computer with audio/video outputs. If you connect a device to the *EIA MULTIPOINT* connector, do not use this set of jacks.

Signals from a device connected to *INPUT 3* jacks can be viewed by pressing the *TV* button followed by 9 then 3 on the remote control (or by scanning to TV channel 93 if you have added “93” to channel memory as described on page 25.)

- ⑦ **S-VIDEO Connector**—provides for direct S-VHS Video connection from S-VHS VCR or Camcorder. Remember to also connect the S-VHS VCR's or Camcorder's audio jack(s) to the TV's *INPUT 1 LEFT* and/or *R/MONO* audio jacks. Connection details are on page 41.

Note: If you connect an S-VHS VCR or Camcorder to the *S-VIDEO* connector, you do not have to connect anything to the *INPUT 1 VIDEO* jack. If you do, however, the *S-VIDEO* signal will automatically override the *INPUT 1 VIDEO* signal.

Signals from devices connected to the *S-VIDEO* connector and *INPUT 1* jacks can be viewed by pressing the *TV* button followed

by 9 then 1 on the remote control (or by scanning to TV channel 91 if you have added “91” to channel memory as described on page 25).

Note: Your TV will automatically display signals from the *INPUT 1* jacks (or *S-VIDEO* connector) when you press the *VCR* button on the remote. See the Helpful Hint on page 43 for details.

- ⑧ **Multiple Antenna Inputs**—provide two separate 75-ohm RF antenna inputs (*ANTENNA A* and *ANTENNA B*) addressable by remote control. Allow simple connection and switching among TV reception, video game, pay-TV decoder, etc. Information about using the jack labeled *TO CABLE DECODER* is on page 5.

- ⑨ **EIA MULTIPOINT Connector**—is a “universal interface” that may be used in the future to connect a variety of video and audio accessories. The connector conforms to industry standards and may enable you to use the new technology when it is introduced.

- ⑩ **SPEAKERS Switch**—lets you turn off TV's internal speakers so that sound will instead come through speakers connected to *EXTERNAL SPEAKERS* terminals.

Note: Be sure to return switch to *INTERNAL* position after disconnecting external speakers, or TV sound will not be heard.

- ⑪ **EXTERNAL SPEAKERS Terminals**—permit direct connection of auxiliary speakers.

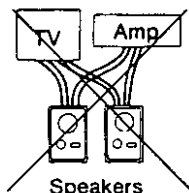
Note: Speaker impedance must be 8 ohms or greater.

Component Connections

Guide

1

Speakers



CAUTION: Do not connect external speakers to more than one audio source at a time. You can connect a set of speakers to either the TV or the Amplifier *but not to both at the same time*. If you connect the same speakers to both the TV and the amplifier, you will damage your equipment.

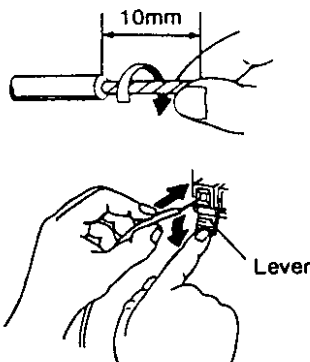
Connecting Speakers to Back of TV

If you connect an Amplifier or Receiver to your TV, connect the speakers to the Amplifier/Receiver instead of the TV.

If you do not connect an Amplifier or Receiver to your TV, you can connect external speakers to the back of the TV to enhance sound from the TV.

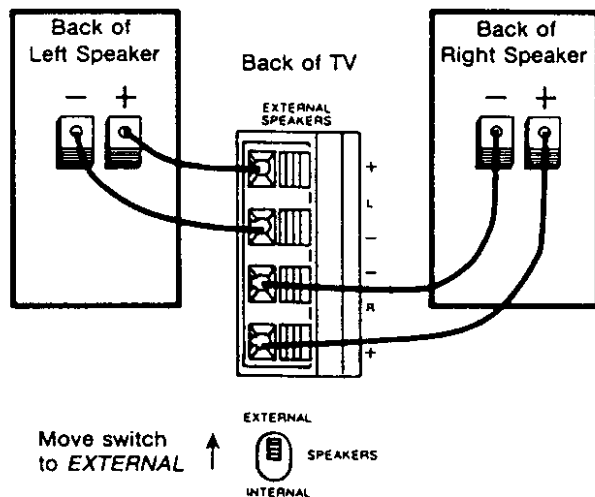
The diagram below shows how to connect external speakers to the **EXTERNAL SPEAKERS** terminals on the back of the TV.

1. Remove the vinyl covering and twist the wire core.
2. Press and hold the lever down while inserting the wire core into the hole. Be sure to connect (+) to (+) and (-) to (-).
3. Release the lever.



Notes:

- After releasing the lever, pull gently on the wire and check that it is connected securely to its terminal.
- Do not allow the wire core to protrude from its terminal or contact other wires or terminals. If the cores of two wires touch each other, damage to components could result.



IMPORTANT: When connecting the speaker wire, make sure you connect the (+) terminal on the TV to the (+) terminal on the speaker. One side of the speaker wire is usually marked with a white stripe to help you connect (+) to (+) and (-) to (-). If the (+) and (-) terminals are not matched properly, the speakers will not be "in phase" causing reduction in low frequencies (bass).

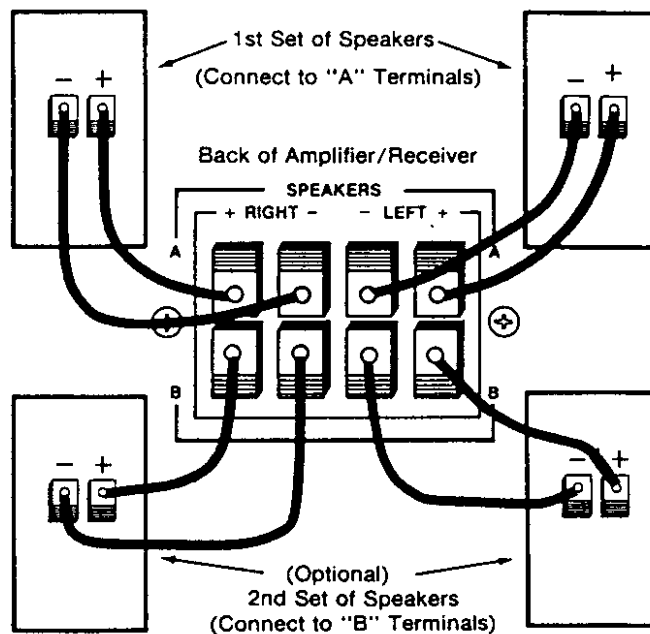
Connecting Speakers to Back of Amplifier or Receiver

If you connect an Amplifier or Receiver to your TV, connect the speakers to the Amplifier/Receiver instead of the TV. Sound from the TV will then come through the Amplifier/Receiver instead of the TV's internal speakers.

The diagram below shows how to connect external speakers to the speaker terminals on the back of a typical Amplifier/Receiver. Check the owner's manual for your Amplifier/Receiver if its speaker terminals look different than those shown below.

Notes:

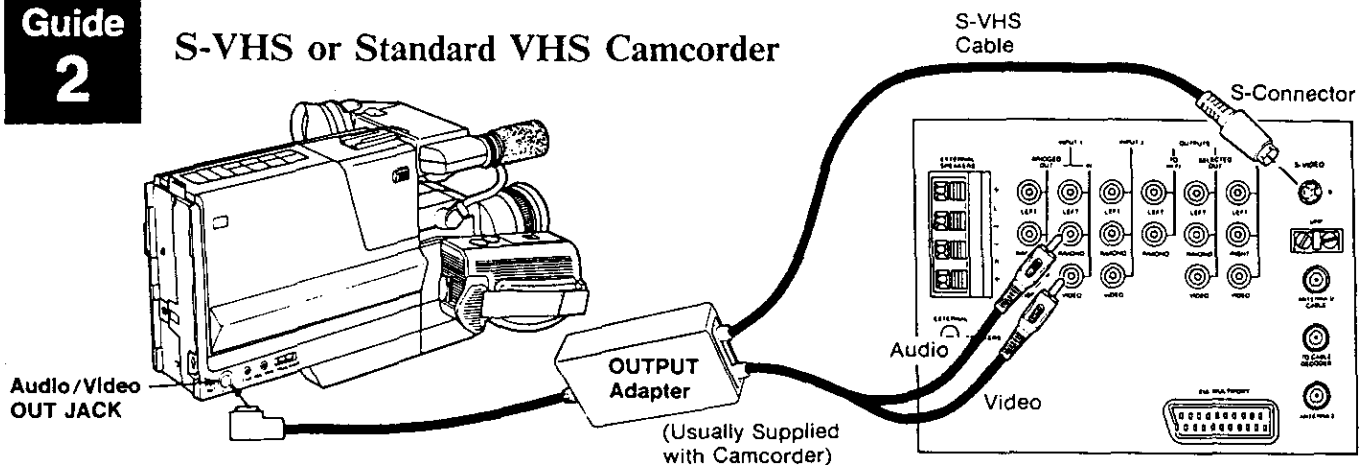
- After connecting speaker wire, pull it gently and check that it is connected securely to its terminal.
- Do not allow the wire core to protrude from its terminal or contact other wires or terminals. If the cores of two wires touch each other, damage to components could result.



IMPORTANT: When connecting the speaker wire, make sure you connect the (+) terminal on the Amplifier/Receiver to the (+) terminal on the speaker. One side of the speaker wire is usually marked with a white stripe to help you connect (+) to (+) and (-) to (-). If the (+) and (-) terminals are not matched properly, the speakers will not be "in phase" causing reduction in low frequencies (bass).

Guide 2

S-VHS or Standard VHS Camcorder



An S-VHS or standard camcorder can be connected directly to your TV.

If you have an S-VHS camcorder, connect the S-VHS video cable to the *S-VIDEO* connector on your TV. If you have a standard VHS Camcorder, connect the video cable to the *INPUT 1 VIDEO* jack on the back of your TV. With either video connection, attach the audio cable to the *INPUT 1 R/MONO* audio jack.

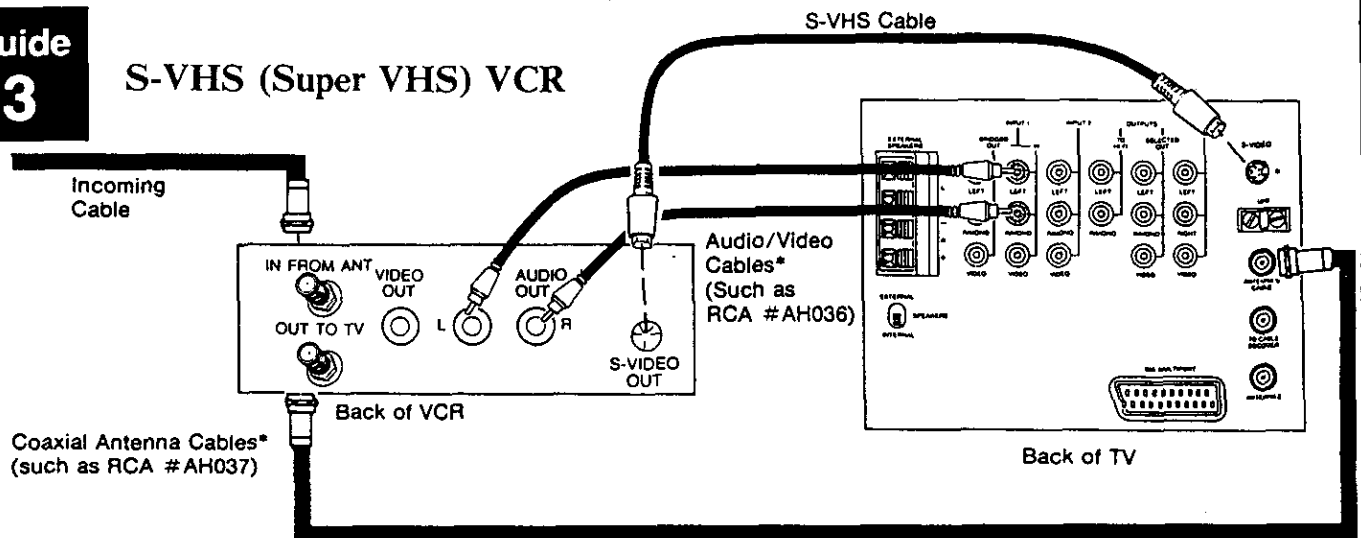
Note: When the Adapter's S-VHS Cable is connected to the *S-VIDEO* connector, the Video plug does not have to be connected. However, you may prefer to plug it in anyway to keep it out of the way. The *S-VIDEO* signal will automatically override the *INPUT 1 VIDEO* signal.

Operation:

- If the Camcorder is connected to *VIDEO 1* jacks as shown, press *TV*, then number buttons 9 then 1 to view whatever the Camcorder is playing.
- If you connect a second audio/video device to *VIDEO 2* jacks, press *TV*, then number buttons 9 then 2 to view whatever the second device is playing.

Guide 3

S-VHS (Super VHS) VCR



Coaxial Antenna Cables*
(such as RCA #AH037)

Shown here is the preferred method of connecting your S-VHS VCR to your TV.

Connect the *S-VIDEO OUT* Connector on the back of the VCR to the *S-VIDEO* connector on the back of your TV using an S-VHS cable. Remember to connect the audio cables from the VCR to the *INPUT 1 LEFT* and *R/MONO* jacks on the back of the TV. The S-VHS cable carries only video.

Operation:

- If the S-VHS VCR is connected to *VIDEO 1* jacks as shown, press *TV*, then number buttons 9 then 1 to view whatever the VCR is playing.
- If you have an S-VHS component connected to the *S-VIDEO* and *VIDEO 1* jacks, S-VIDEO will appear on the TV when you access the *VIDEO 1* jacks by selecting Channel 91.

*Optional accessories are available from most RCA dealers and electronic supply stores.

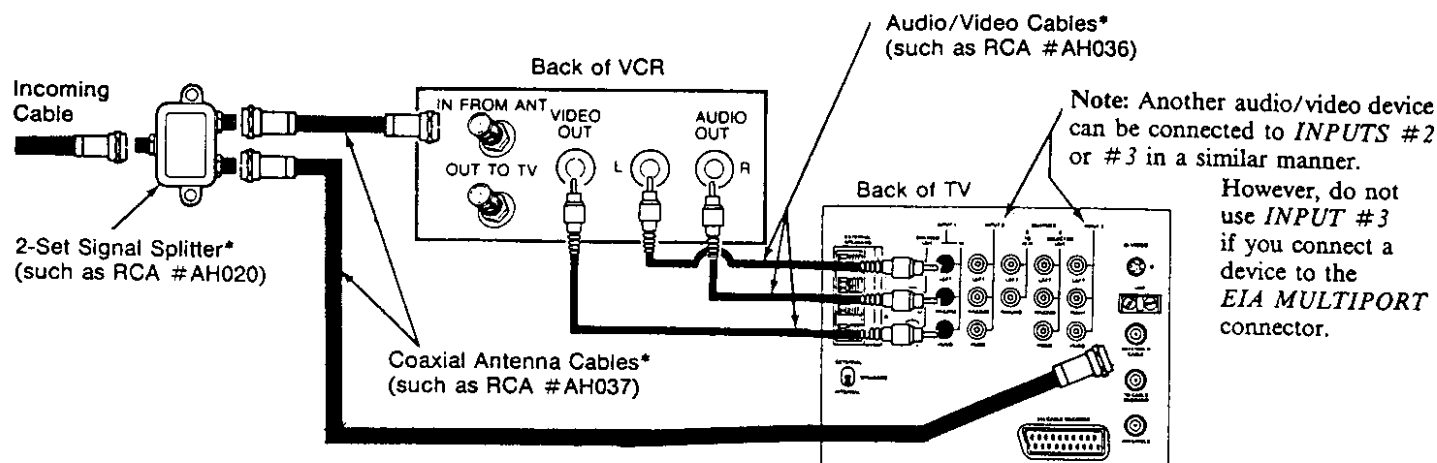
VCR Connections

Guide

4

Standard VHS VCR (Video Cassette Recorder) (Not S-VHS)

Preferred Method



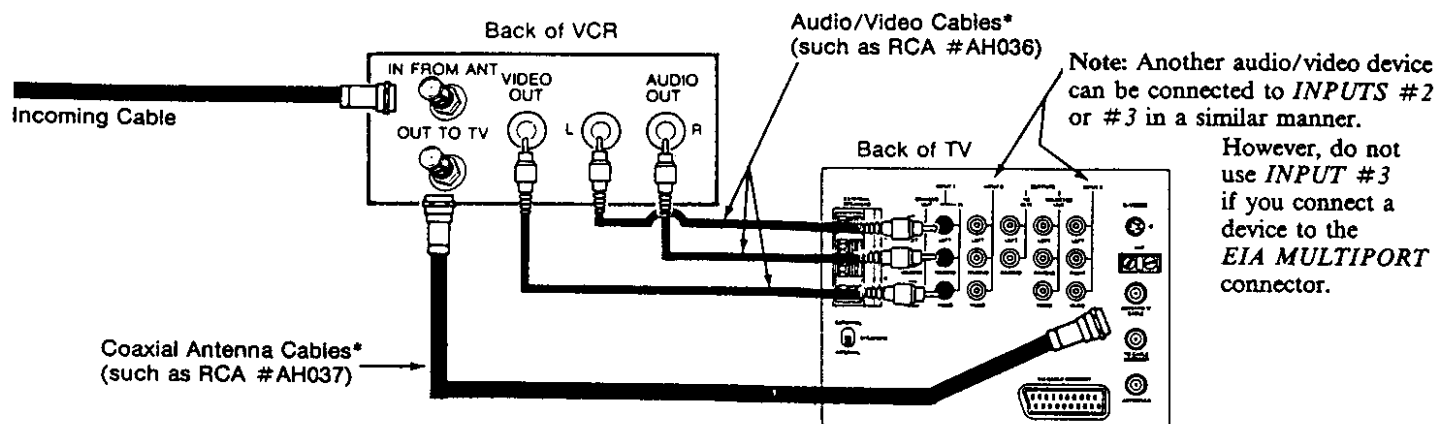
Shown here is the preferred method of connecting a VCR to your TV. This method uses a 2-set signal splitter to run separate signals to the VCR and TV. This way you can view either TV programs or VCR tapes and not be concerned about the position of the VCR's TV/VCR switch.

Note: The audio/video connections from the VCR to the TV are required in order for you to watch tapes being played by the VCR.

Operation:

- If the VCR is connected to **INPUT #1** as shown, press **TV**, then number buttons 9 then 1 to view whatever the VCR is playing.
- If you connect an audio/video device to **INPUT #2**, press **TV**, then number buttons 9 then 2 to view whatever that device is playing.
- If you connect an audio/video device to **INPUT #3**, press **TV**, then number buttons 9 then 3 to view whatever that device is playing.

Alternate Method



Shown here is a simplified method of connecting a VCR to your TV. The preferred method (using a 2-set signal splitter) is shown above. On many VCR's, turning them on causes the VCR's TV/VCR switching to disconnect the antenna signals from the TV. By using a signal splitter to run separate signals to the VCR and TV, you can view TV programs or VCR tapes and not be concerned about the position of the VCR's TV/VCR switch.

Note: The audio/video connections from the VCR to the TV are optional; however, these additional connections usually produce a better-quality picture during VCR playback. These connections are required, however, for stereo playback from stereo VCR's.

Operation:

- If the VCR is connected to **INPUT #1** as shown, press **TV**, then number buttons 9 then 1 to view whatever the VCR is playing.
- If you connect an audio/video device to **INPUT #2**, press **TV**, then number buttons 9 then 2 to view whatever that device is playing.
- If you connect an audio/video device to **INPUT #3**, press **TV**, then number buttons 9 then 3 to view whatever that device is playing.

Remote Buttons That Control VCR

- The Digital Control remote that came packed with your TV controls your TV and other RCA compatible components.
- To control a compatible RCA VCR, first press the *VCR* button to put the remote in the "VCR mode". The buttons shown below will then control the VCR.

Helpful Hint

When you press the *VCR* button, your TV is specially designed to come on and automatically display signals from the *INPUT 1* jacks. If no signal is coming from the *INPUT 1* jacks or

if the device connected to the *INPUT 1* jacks is turned off, the TV switches back to the last TV channel you were watching. (The remote stays in the "VCR Mode".)

This is a convenient feature if you connect a VCR (or another device) to the *INPUT 1* jacks. By just pressing the *VCR* button, your TV will come on and automatically switch to display signals from the VCR.

PAUSE Button

- Press to pause play or record mode.
- Press again to release pause.

VCR Button

- Press to turn on VCR and put remote in "VCR Mode" so other buttons will control only the VCR.
- Press the *TV* button to put remote back into "TV Mode".

PLAY Button

Press to start tape playing.

REWIND Button

- Press while VCR is stopped to rewind tape.
- Press while VCR is playing to search backward.

FFWD (Fast Forward) Button

- Press while VCR is stopped to fast forward tape.
- Press while VCR is playing to search forward.

RECORD Button

Press to record. It is not necessary to press *PLAY* and *RECORD* with this remote.

STOP Button

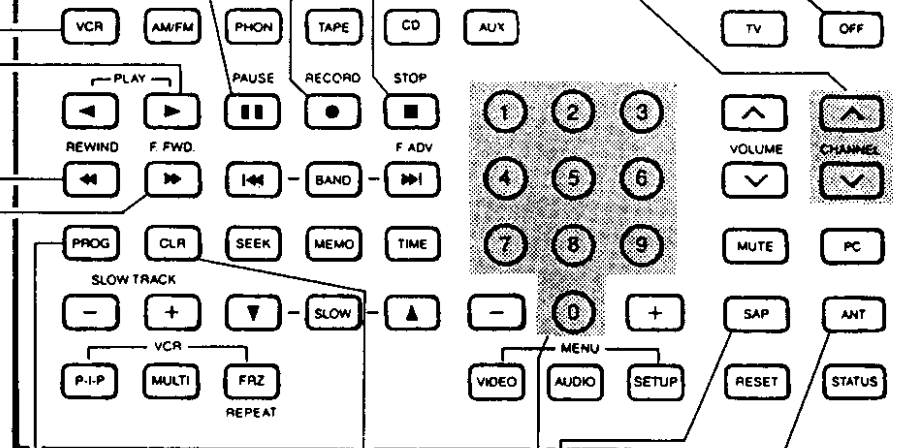
Press to stop whatever VCR is doing: Playing, Recording, Rewinding, or Fast Forwarding.

CHANNEL $\wedge/\vee$ Buttons

Press to select next higher or lower channel in VCR channel scan list.

OFF Button

Press to turn off VCR.



CLR (Clear) Button

Used when setting the VCR's clock and programming its timer.

PROG (Program) Button

Used when setting the clock and programming the timer.

ANT Button

Press to change *VCR/TV* switch on VCR to other position.

SAP Button

Press to receive SAP audio.

Number Buttons

- Press two numbers to select channel.
- Press a "0" before a single-digit channel number.

VCR Connections

Guide

5

Dubbing/Editing with Two VCR's

Should you wish to dub (copy) tapes from one VCR to another, the connections can be made through the TV as shown here to provide monitoring capability during the dubbing process.

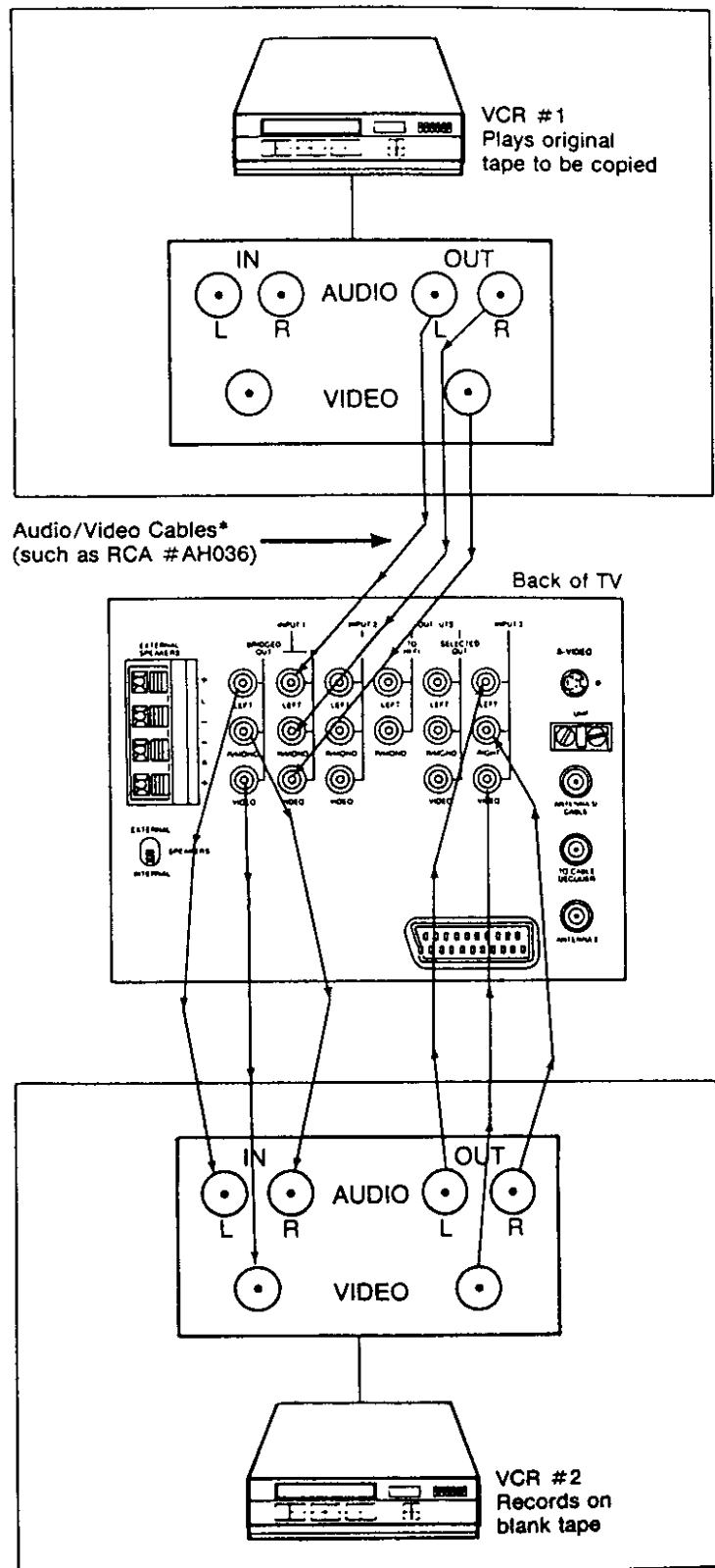
Installation

1. Connect the first VCR's **AUDIO/VIDEO OUT** jacks to **INPUT #1** jacks on TV.
Note: If the VCR has a monaural audio output (only one **AUDIO OUT** jack instead of L and R), connect it to the **R/MONO** jack of the TV.
2. Connect the **BRIDGED OUT** jacks of TV to **AUDIO/VIDEO IN** jacks of VCR #2.
Note: (The **BRIDGED OUT** jacks carry whatever signal is coming in through the **INPUT 1** jacks.)
3. Connect the **AUDIO/VIDEO OUT** jacks of VCR #2 to the **INPUT 3** jacks of the TV.
4. Place the second VCR's **TUNER/LINE** switch in the **LINE** position.
Note: If this switch is called **TUNER/CAMERA** switch on your VCR, put switch in **CAMERA** position.

Operation:

1. Use VCR #1 to play the tape to be copied. Use VCR #2 to record.
2. Monitor the program material being played on VCR #1 by first pressing the remote's **TV** button (to address the TV), then "9" then "1". Press "9" then "3" to see what VCR #2 is recording.
3. If you want to delete portions of the program being played on VCR #1, use the **PAUSE** button on VCR #2.
4. To play back from VCR #2, set up the VCR for playback and then press the remote's **TV** button (to address the TV), then "9", then "3".

Note: Do not use **INPUTS #3** if you connect a device to the **EIA MULTIPOINT** connector.



*Optional accessories are available from most RCA dealers and electronic supply stores.

Component Connections

Guide 6

Surveillance Systems (Video Cameras)

Your new TV can also be used in home or business as a surveillance system to monitor the output of video cameras. Any unused *AUDIO/VIDEO* inputs on the TV can be used to connect the cameras to the TV—the illustration here shows a 3-camera system as an example.

The output of any camera can be recorded as it is viewed on the TV screen by connecting a VCR to the *SELECTED OUT* jacks. If the VCR is connected this way, it will record whatever you see on the TV screen.

The output of a camera connected to *INPUT 1* jacks can be recorded (whether or not it is showing on the TV screen) by connecting a VCR to the TV's *BRIDGED OUT* jacks. If the VCR is connected this way, it will record whatever signal is coming through the *INPUT 1* jacks.

Installation

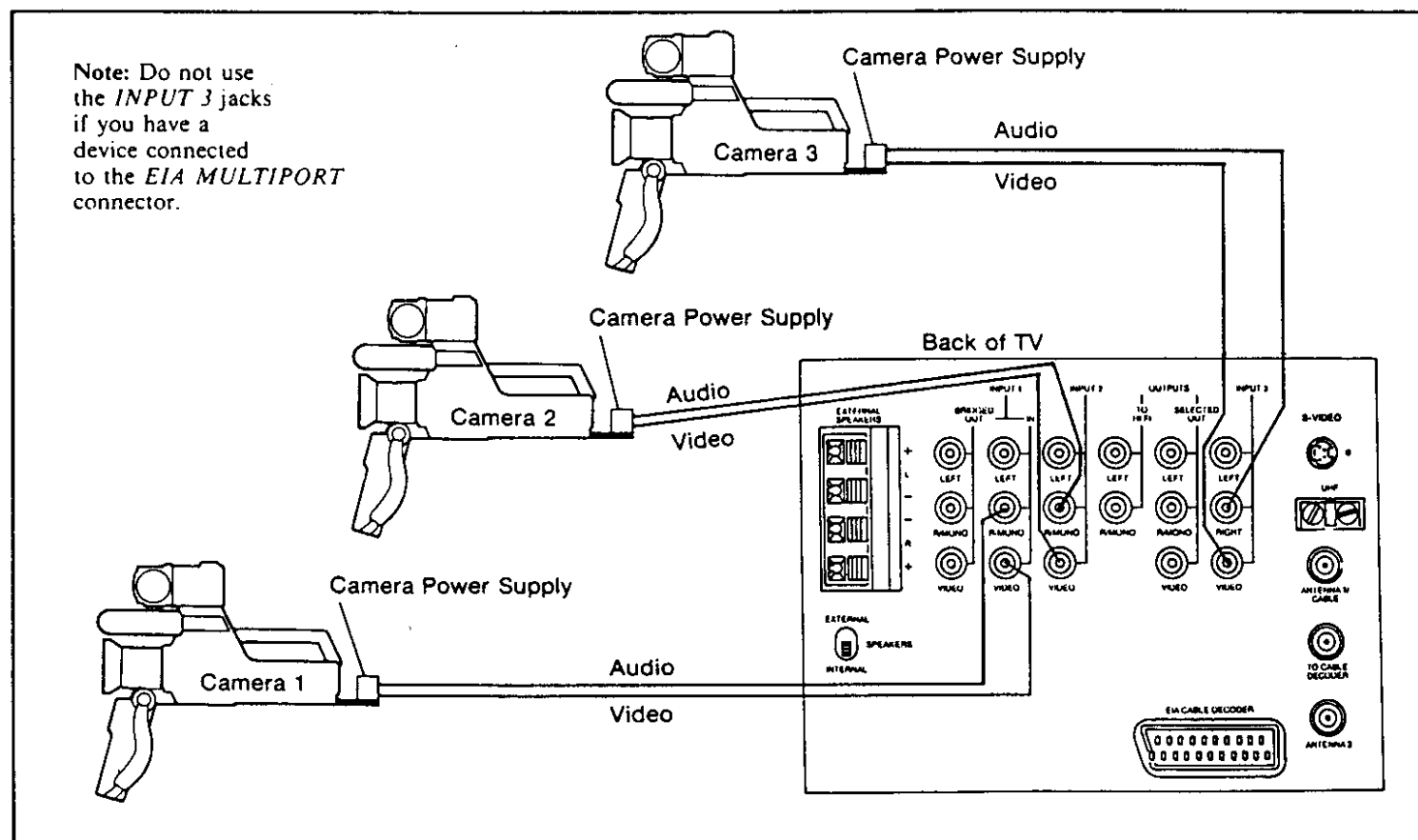
- If your camera power supplies have compatible cables, these will connect directly to the audio/video jacks on the TV. If the plugs are not compatible, adapters are available from electronic supply stores.

- Connect the output of each camera (or its power supply) to the desired *INPUT* jacks on the TV. Connect each camera's Audio cable to the corresponding audio jack labeled *R/MONO* so the sound will come through both channels.

To View Signals From Camera

Use the number buttons on the remote control to display video from each camera on the TV screen.

- If the camera is connected to the *INPUT 1* jacks, press *TV* (to address the TV), then "9" then "1".
- If the camera is connected to the *INPUT 2* jacks, press *TV* (to address the TV), then "9" then "2".
- If the camera is connected to the *INPUT 3* jacks, press *TV* (to address the TV), then "9" then "3".

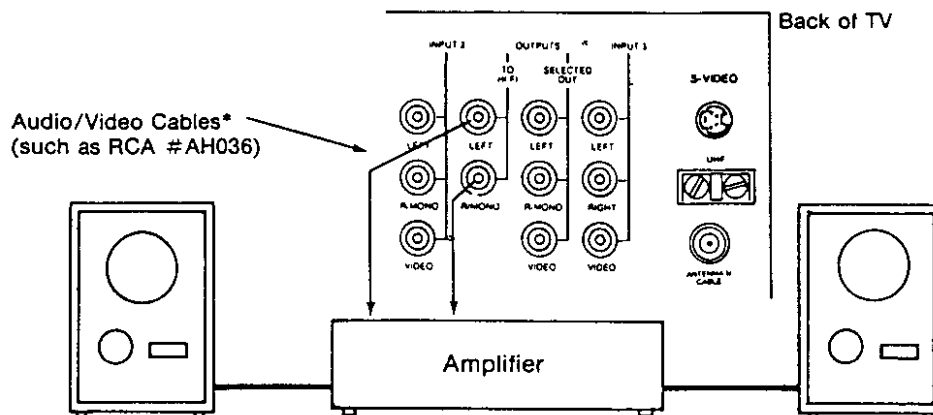


Component Connections

Guide 7

Amplifier or Cassette Tape Deck

Audio Amplifier



- If your stereo amplifier is *not* part of a "system" that has its own remote, connect it to the TV as shown here.
Note: If the stereo amplifier is part of a system that has its own remote, you may choose to connect it to the TV as shown below using the *SELECTED OUT* jacks.

- With the connection shown here, you'll be able to change and mute volume with the TV's remote control. You'll also be able to remotely control bass and treble functions.

Connection:

- Connect the "L" and "R" *TO HI-FI* jacks to the corresponding input jacks on the stereo amplifier. If your

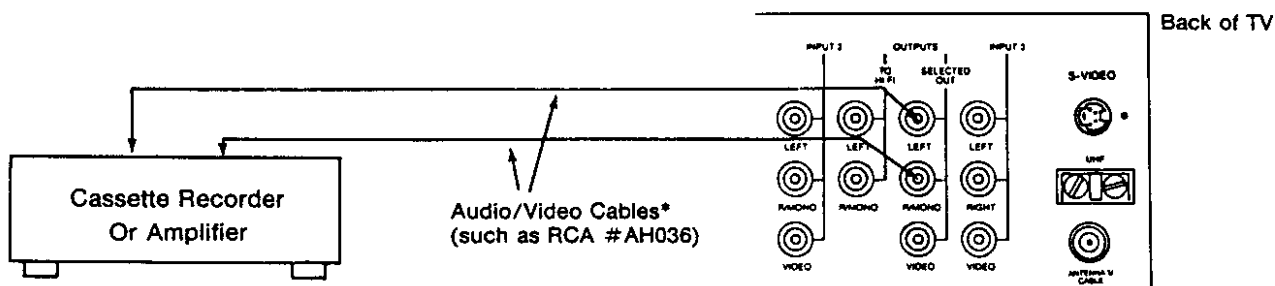
amplifier is not stereo, connect it to the TV's *R/MONO* jack.

- Consult the amplifier's owner's manual for the manufacturer's recommended hookup.

Operation:

- Turn off TV's internal speakers.
- Adjust the amplifier for normal listening. (Set amplifier to moderate listening level in another component; then select the amplifier inputs to which the TV is connected.)
- Control sound with the *VOLUME* and *MUTE* buttons on the TV's remote.

Audio Cassette Recorder or Amplifier



- If your stereo amplifier is part of a "system" that has its own remote control, connect it to the *SELECTED OUT* jacks as shown here.
- The "fixed-level" audio signal present at these jacks is also ideal for connecting an audio cassette recorder to record audio from the TV.
- This constant audio signal is not affected by pressing buttons on the TV's front panel or the TV's remote control.

Connection:

- Connect *SELECTED OUT* "L" and "R" to the corresponding input jacks on the stereo amplifier or audio

cassette recorder. If your amplifier is not stereo, connect it to the TV's *R/MONO* jack.

- Consult the equipment's owner's manual for the manufacturer's recommended hookup.

Operation:

- Select a TV channel and turn down the sound on the TV, or turn off TV's internal speakers.
- Adjust sound with controls on the amplifier or cassette recorder.
- If the amplifier or cassette recorder is part of a "system" that has its own remote, use the system's remote to adjust sound.

Component Connections

Guide 8

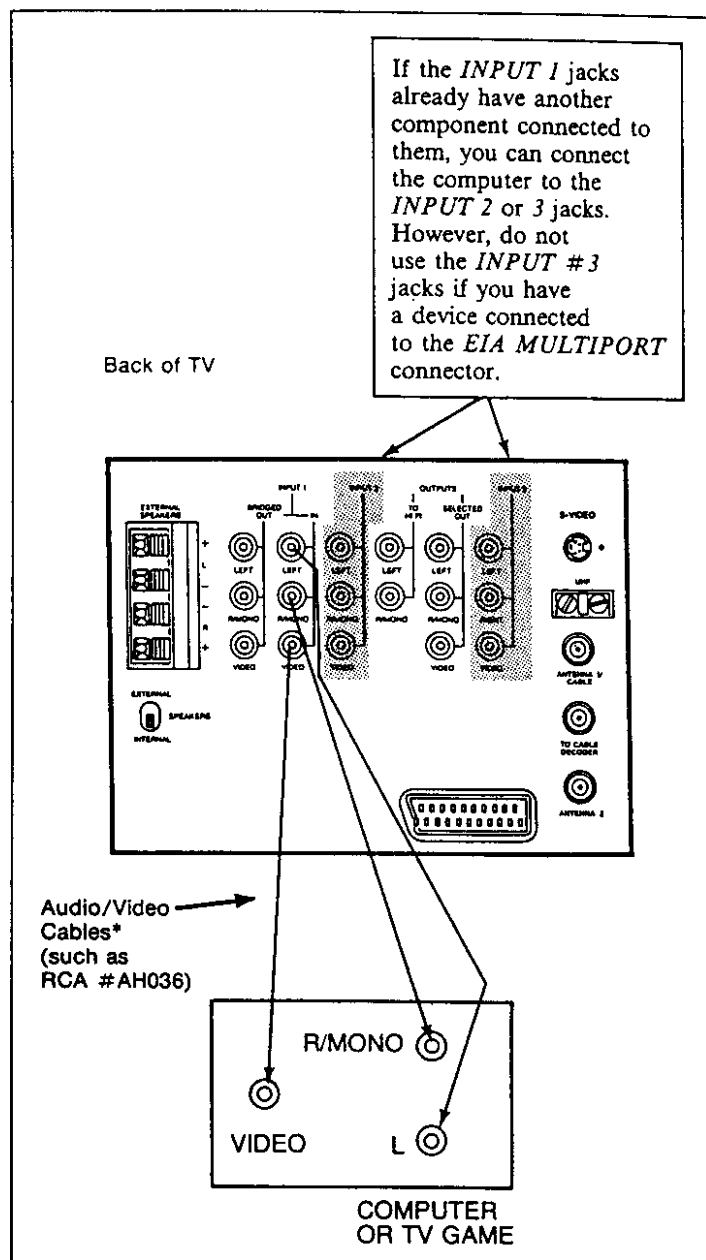
Computers and Other Equipment with Audio/Video Outputs

Your TV can also be used as a display device for many video games and home computers with 40-column displays. If your game or computer has a normal NTSC (American Standard) *VIDEO* output, it can be connected directly to either the *INPUT 1*, *INPUT 2*, or *INPUT 3* jacks on the TV as shown here.

If the computer or other device has monaural audio output (only one *AUDIO OUT* jack instead of *L* and *R*), connect it to the TV's *R/MONO* jack. This will enable the TV to reproduce the sound through both the left and right speakers.

To View Signals From Computer

- If you connected the computer to the TV's *INPUT 1* jacks, press *TV* (to address the TV), then "9", then "1". This will switch the TV to the *INPUT 1* jacks so you can see whatever signal is coming from the computer.
- If you connected the computer to the TV's *INPUT 2* jacks, press *TV* (to address the TV), then "9" then "2". This will switch the TV to the *INPUT 2* jacks so you can see whatever signal is coming from the computer.
- If you connected the computer to the TV's *INPUT 3* jacks, press *TV* (to address the TV), then "9", then "3". This will switch the TV to the *INPUT 3* jacks so you can see whatever signal is coming from the computer.



*Optional accessories are available from most RCA dealers and electronic supply stores.

Trouble Checks

- Troubles sometimes are caused by simple "faults" that you can easily correct without the help of a service technician by first checking a few basic remedies.
- Before you call or take your unit to an RCA Authorized TV Servicenter, look below for the type of trouble you are experiencing. Then perform the simple checks and adjustments listed for that trouble.
- *If your unit is still in warranty*, these checks and adjustments could save you time and the cost of an unneeded trip to the Servicenter. They also could save you the cost of a diagnosis not covered by your warranty. (See "What does your warranty *not* cover" on the back cover page.)
- *If your unit is out of warranty*, these checks and adjustments could save you the cost of an unneeded diagnosis.
- If service should be necessary, the warranty information on the back cover page lists what your warranty covers and explains how to get service.

Trouble	Checks and Adjustments
TV will not turn on	• Check to make sure it is plugged in. • Check the wall receptacle (or extension cord) to make sure it is "live" by plugging in something else. • Maybe batteries in remote control are "dead". • Maybe remote control was not aimed at remote sensor.
Intermittent or no remote	• Maybe something was between the remote and the remote sensor. • Maybe the remote was not aimed directly at the component (TV or VCR) you were trying to control. • Maybe remote is not in "TV Mode". Press <i>TV</i> button so remote will control TV. • Maybe batteries in remote are weak or dead. Try replacing batteries.
Turns off while playing	• Check Sleep Timer or Alarm Timer functions. • Electronic protection circuit may have been activated because of a power surge. Wait 30 seconds and then turn on again. If this happens frequently, the voltage in your house may be abnormally high (especially if you burn out a lot of light bulbs).
Blank Screen	• Channel 91 or 92 selected, but device connected to those inputs not turned on. • Try another channel.
No sound, picture okay	• Internal speakers and amplifier may be turned off. • External speakers may have become disconnected from back of TV. • Speaker Switch on back of TV set to <i>EXTERNAL</i> instead of <i>INTERNAL</i> and no external speakers are attached. • Maybe sound is muted. Try pressing <i>VOLUME</i> $\wedge$ button to restore sound. • Maybe Amplifier is set for wrong input.
Can't select certain channel	• That channel may be blocked out with Parental Control feature. • If using VCR, check to make sure <i>TV/VCR</i> switch is in correct position.
Noisy stereo reception	• May be a weak station. Use <i>AUDIO MENU</i> button to put TV back to "MONO" mode instead of "STEREO".

(continued on next page)

No picture, no sound but power light is on

- Maybe someone changed *CABLE/AIR* function to wrong position.
- Maybe a vacant channel is tuned.
- For Channels 91 and 92, make sure the component connected to *INPUT 1* or *2* is turned on in order to see picture.
- If watching VCR (connected only thru antenna input), make sure TV is tuned to channel 3 or 4—same as *CH3/CH4* switch on VCR. Also check to make sure *TV/VCR* switch on VCR is in correct position.

Sound okay, picture poor

- Check antenna connections.
- Try adjusting *SHARPNESS* function to improve weak signals.

Picture okay, sound poor

- Try another channel.
- Try adjusting *VOLUME*, *BASS*, and *TREBLE* controls.
- If station is sending stereo, use Audio Menu function to put TV into “Mono” mode.

Controls don't work

- If using remote control, make sure remote is in “TV Mode” by first pressing *TV* button.
- Try unplugging set for 2 minutes and then turning it on again.

Cleaning and Care

- Dust TV as required, using a soft cloth or the dusting attachment for your vacuum cleaner.
- Occasionally vacuum the ventilation slots in the cabinet to assure adequate ventilation.
- Take care not to scratch the plastic surfaces.
- Do not use cleaning solutions with alcohol or ammonia on the plastic or wood surfaces.
- To restore the original sparkle to plastic surfaces, apply Glass Wax with a soft cloth. A special anti-static cleaning/polishing solution (AH035) is available from your RCA dealer.
- Avoid using an oil-based furniture polish on the cabinet since the residue will accumulate more dust.
- Turn the TV off before cleaning the front.
- Clean the face of the picture tube occasionally with a soft cloth or paper towel and a small quantity of liquid glass cleaner. A special anti-static cleaning/polishing solution (AH035) is available from your RCA dealer.
- While cleaning, do not allow liquid to run down the screen and inside the instrument.
- Avoid placing drinks or vases with water on top of your TV.
- If you suspect that liquid has entered the TV, unplug it immediately and have it inspected by an RCA TV Servicenter. Turning it off is not enough—your TV and many other modern devices have power applied to some circuits even when the *POWER* switch is turned off.

Design Specifications

General Specifications

Color Standard:	525 line NTSC Color
Chassis:	CTC140, solid state, unitized
Power Requirements:	120VAC $\pm$ 10%, 60Hz
Power Consumption:	134W average, 168W max.

Picture Tube

27-inch (diagonal) (28" in Canada) 110° Coty Square Planar Precision in-line with high-potential, bipotential gun; and integral contrast enhancement filter.

Remote Control

Transmission system:	Digitally encoded infrared light
Batteries:	2 AAA Size 1.5-volt cells
Battery Life:	One Year in Normal Use

Power Cord

Type SJT 2

RF Specifications

Tuning System Type:	Quartz-controlled Multiband Frequency Synthesis
Band Coverage:	VHF channels 2-6, 7-13 EIA Cable Channels 1-89 and 98, 99 UHF Channels 14-69
Frequency Coverage:	54-806 MHz
Tuner Type:	Solid State
Channel Access:	Programmable Scan Up/Down Direct Access With Remote
Channel Indication:	On-Screen
Antenna Inputs:	Two 75-ohm VHF inputs 300-ohm UHF Input (balanced)
Sensitivity:	10 μ V, VHF 20 μ V, UHF
Off-set Channel Pull-in range:	$\pm$ 2.5MHz, cable

Video Specifications

Horizontal Luminance Resolution:	560 Lines Typical (from S-VHS video input)
Black to White Rise Time	75ns
Luminance bandwidth:	7MHz Typical (from S-VHS video input)
Video Input:	1Vp-p; 75 ohms; negative sync
S-Input:	Pin 1—Luma Gnd Pin 2—Chroma Gnd Pin 3—Luma In Pin 4—Chroma In
HV @ Zero Beam current:	29.9kV Nominal
Video Output:	1Vp-p; 75 ohms, negative sync

Audio Specifications

Frequency Response:	50-20,000 Hz $\pm$ 3 dB (from audio inputs at rated output)
Stereo System:	MTS Stereo, Three Channels (L,R,SAP)
Stereo/Mono Switching:	Automatic
Audio Input:	450 mV RMS typical, 1 V RMS maximum
Audio Input Impedance:	Greater than 50 kOhms (Stereo); Greater than 25 kOhms (Mono)
Audio Power:	5 watts/channel into 8 ohms with less than 1% THD
Audio Output:	
Selected Outputs:	Output level tracks inputs within +0/-2 dB
Outputs To Hi-Fi:	2 V RMS maximum, controlled by volume, mute, bass, treble, and balance
Output impedance:	Selected and Hi-Fi outputs less than 1000 ohms
Speaker Impedance:	Internal, 8 ohms (nominal) External, 8 ohms or Greater

All features and specifications subject to change without notice.

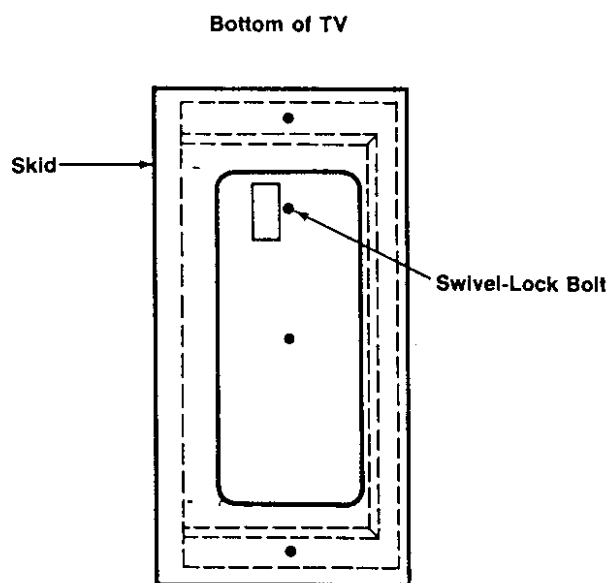
Additional Information

For Swivel Models With Swivel-Lock Bolt

- To protect the base during shipping, some swivel models have a swivel-lock bolt under the cabinet. This bolt prevents the swivel base from moving.
- You will not be able to swivel your TV until the swivel-lock bolt is removed.
- If your TV is still mounted on its packing skid, you will also want to remove the skid when you remove the swivel-lock bolt.

Removing Skid and Swivel-Lock Bolt

1. Carefully turn cabinet on its top onto a clean, soft surface.
2. If your TV is still attached to the skid, remove the skid following the directions found on the skid.
3. Also remove the swivel-lock bolt with an adjustable wrench.
4. Turn cabinet upright onto its swivel base. Your TV will now swivel.



Remove skid and swivel-lock bolt to make TV swivel.

Index

- and + Buttons (Remote)	9,12,14,19
- and + Buttons (TV)	12,14,19,33
Accessory Cables	36
Adding Channels to Channel Memory	25
Additional Information (Swivel)	51
Additional Operating Notes	33
Adjusting Audio Functions	15
Adjusting Video Functions	13
AL Display	21,22
Alarm (Setting)	21,22
Amplifier	18,40
Amplifier Connection	46
ANT A/B Displays	5,9
ANT Button (Remote)	5,9
Antenna Cables	3
Antenna Input (A/B)	26
Antenna Inputs	5,9,39
Antenna/Cable Information	3
Attaching Power Cord	3
Audio: Stereo/Mono Function	16,17
AUDIO Button	11,15,16
AUDIO Button (General Info)	14
AUDIO Button (Remote)	9
AUDIO Menu	9,11,14
Auto Demo Feature	34
Auto Reset Function	13,28,29
Autocolor On/Off	32
Automatic Demonstration	34
Automatic Light Sensor	11
Autoprogramming	24,26,30

Avoiding Hum	37
Balance Adjustment	15
Bass Adjustment	15
Batteries (Remote)	7
Best Color Picture	13
Blinking Power Light	11,21
Blocking Channels	23
BRIDGED OUT Jacks	39
Brightness Adjustment	13
Cable-TV	3,5,6
Cable/Air Function	30
Cables (Accessory)	36
Cables (Antenna)	3
Camcorder Connection	41
Camera Connection	45
Care	50
Cassette Tape Deck	46
Changing Antenna Input	26
Changing Message Style	31
CHANNEL Buttons	11,33
CHANNEL Buttons (Remote)	8,9
Channel Memory	24,25,26
Channel Number Display	11
Channels 91, 92, and 93	25
Checks & Adjustments	48,49
Choosing Best Location	3
Cleaning	50
CLEAR Button (Remote)	9,19,20,22,23,27
Clock Set	27
Color Adjustment	13

Index (cont)

Comb Filter	2	Remote Buttons for VCR	43
Compatible Components	36	Remote Control	7,8,9
Computer Connection	47	Remote Control Sensor	11
Connection Tips	36	RESET Button (Remote)	9,28,29
Connections		S-VIDEO Connector	39
• Amplifier	46	Safety Precautions	Inside Front Cover
• Audio Cassette Recorder	46	SAP Broadcasts	17
• Cable-TV	5	SAP Button (Remote)	9,17
• Camcorder	41	SAP Light	11
• Cassette Tape Deck	46	Scrambled Cable Channels	5,6
• Computers	47	SELECTED OUT Jacks	39,46
• Equipment with Audio/Video Outputs	47	Service	48,49,Back Cover
• Home Antenna	4	SET Light	11,17
• External Speakers	40	Setting Clock	27
• S-VHS VCR	41	Setting Sleep Timer	20
• Standard VHS VCR	42	Setting the Alarm	21,22
• Two VCR's	44	SETUP Button	9,11,19
• Video Cameras	45	SETUP Menu	9,11,19
Contrast Adjustment	13	Sharpness Adjustment	13
Converter Box	5,6	Skid Removal	51
COTY Picture Tube	2	Sleep Timer	20
Decoder Box	5,6	Speaker Terminals	39,40
Design Specifications	50	Speakers	18,37,40
Dubbing with Two VCR's	44	Speakers (Positioning)	37
Editing with Two VCR's	44	SPEAKERS Switch	18,39,40
EIA MULTIPORT Connector	6,39	Specifications	50
Erasing Channels in Channel Memory	25	Stacking Arrangements	37
EXTERNAL SPEAKERS Terminals	39,40	STATUS Button (Remote)	9
Features	2	Stereo Broadcasts	16
Front Panel Controls	10	STEREO Light	11,16
Home Antenna	3,4	Surveillance Systems	45
Hum (Avoiding)	37	Swivel-Lock Bolt	51
INPUT Jacks	39,41,42,44,45,47	Tape Deck	46
Installation Information	3	Time Display	11
Introduction	1	Tint Adjustment	13
Jack Panel	38	Tips (Connection)	36
Last Function Memory	33	TO HI-FI Jacks	15,39,46
Light Sensor	11	Treble Adjustment	15
Message Style	31	Trouble Checks	48,49
Monitor Jack Panel	38	Turning Off Alarm	22
Multiple Antenna Inputs	39	TV Button (Remote)	8,19,20
MUTE Button (Remote)	9	TV Mode (Remote)	8,19
Number Buttons (Remote)	9	UHF and VHF Channels	3,4
OFF Button (Remote)	8	Ultraband Cable Channels	6
Operating Guide	53	Unpacking TV	3
Parental Control	23	VCR (S-VHS) Connection	41
PC Button (Remote)	9	VCR (Standard) Connection	42
Picture Memory	13,28	VCR Buttons (Remote)	43
Power Cord (Attaching)	3,37	VCR Mode (Remote)	8
Power Failures	33	VHF and UHF Channels	3,4
POWER Light	11	VIDEO Button	9,11,12,13
POWER Light (Blinking)	11,21	VIDEO Button (General Info)	12
POWER On/Off	11	VIDEO Button (Remote)	9
Precautions (Safety)	Inside Front Cover	Video Input Channels	25
Programming Channel Memory	24,25	VIDEO Menu	9,11,12
Quick-Reference Guide	53	VOLUME Buttons	11
Quickly Removing Displays	33	VOLUME Buttons (Remote)	8
Receiving SAP Broadcasts	17	Warranty	Back Cover
Receiving Stereo Broadcasts	16	Warranty Registration	Inside Front Cover
Registration	Inside Front Cover	XtendedLife Chassis	2

Quick-Reference Remote Operating Guide

Video (Picture) Adjustments

- COLOR
TINT
CONTRAST
BRIGHTNESS
SHARPNESS
AUTO RESET

1. Press **VIDEO** button repeatedly until “-” and “+” marks move down next to desired function.
2. Press “-” or “+” to adjust function.

Audio Adjustments

- TREBLE
BASS
BALANCE
AUDIO: STEREO
SAP: OFF
SPEAKERS: ON

1. Press **AUDIO** button repeatedly until “-” and “+” marks move down next to desired function.
2. Press “-” or “+” to adjust function.

Setting Clock

1. Press **SETUP** twice.
2. Press “1”.
3. Enter correct time by pressing four number buttons.
4. Press “1” for AM or “2” for PM.
5. Press **SETUP** when finished.

Autoprogramming Channels into Channel Memory

1. Press **SETUP**.
2. Press 4.
3. Press “+”.

Erasing/Adding Channels in Memory

1. Press **SETUP** twice.
2. Press “2”.
3. Select channel you want to add or erase.
4. Press “-” to erase, or press “+” to add.

Changing Message Style

1. Press **SETUP** twice.
2. Press “5”.
3. Press **TV** when finished.

Parental Control

Blocking Channels

1. Press **SETUP**.
2. Press “3”.
3. Enter channel numbers you want blocked.
4. Press “+” to turn on Parental Control.
5. Press **SETUP** when finished.

Turning Off Parental Control

1. Press **SETUP**.
2. Press “3”.
3. Press “-”.
4. Press **SETUP**.

Clearing Parental Control

1. Press **SETUP**.
2. Press “3”.
3. Press **CLEAR**.

Picture Memory

Programming Your Settings into Memory

1. Adjust video functions to your liking.
2. Press **SETUP** twice.
3. Press 3.
4. Press “+” to store current settings into memory.

Note: Now whenever you press **RESET** on the remote, TV will automatically reset video functions to the settings you programmed into picture memory.

Programming Original (out-of-box) Settings into Memory

1. Press **SETUP** twice.
2. Press 3.
3. Press “-” to return to original settings.

Note: Now whenever you press **RESET** on the remote, TV will automatically reset video functions to the original (out-of-box) settings.

Setting Sleep Timer

1. Press **SETUP**.
2. Press “1”.
3. Press “+” to select length of time.

Cancelling Sleep Timer

- A. (Before 10-second Warning)
Enter Sleep Timer function and press **CLEAR**.
- B. (During 10-second Warning)
Press **TV** if you want TV to stay on when 0:00 display appears on screen.

Setting Alarm

1. Press **SETUP**.
2. Press “2”.
3. Enter time you want TV to turn on (or 0000).
4. Enter time you want TV to turn off (or 0000).
5. Enter channel number.
6. Push “+” to turn on alarm function.
7. Press **SETUP** when finished.

Turning off Alarm After It Turns On TV

- A. Press **OFF**.
(This way simply turns off the TV but leaves the alarm turned “on” so it will activate the TV again the next day.)
- B. Press **CLEAR** within 20 seconds after alarm turns on TV.
(This way turns off the alarm so it will not function again until you turn alarm back on.)

Changing Antenna Input

- Press **ANT** button to switch from one antenna input to the other. (ANT A or ANT B will appear on the screen whenever you press the **ANT** button to let you know which antenna input you’re viewing.)

↑
or
↓

- Press **SETUP**, then “5” to switch.

RCA Limited Warranty

ColorTrak 2000 Monitor/Receiver

What does your warranty cover:

- Any defect in material or workmanship.

For how long after your purchase:

- Ninety days for labor charges.
- One year for parts.
- Two years for picture tubes.

The warranty period for rental sets begins with the first rental.

What will we do:

- Pay any RCA Authorized Television Servicenter the labor charges to repair the set in your home or, if required, at the service facility.
- Provide new or, at our option, rebuilt replacement parts and picture tube for the RCA Authorized Television Servicenter to make the repairs.

How do you get service:

- Contact any RCA Authorized Television Servicenter. For their names and locations, ask your dealer or RCA Distributor, or look in the Yellow Pages.
- Show the service technician your evidence of purchase date.

What does your warranty *not* cover:

- Customer instruction. Your Owner's Manual provides information regarding operating instructions and user controls. For additional information ask your dealer.
- Installation and set-up service adjustments.
- Signal reception problems caused by external antenna or cable systems.
- Damage from misuse or neglect.
- Remote control batteries.
- Sets which have been modified or incorporated into other products.
- Sets purchased or serviced outside the USA.

How does state law relate to this warranty:

- This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

What if you purchased your set in Canada:

- Refer to the Canadian Warranty.

©1988 Thomson Consumer Electronics, Inc.
Trademark(s)[®] Registered
Marca(s) Registrada(s)
Job 61689
Part 1Q56 046-01A
(Revision 1)



Thomson Consumer Electronics
600 N Sherman Dr, PO Box 1976
Indianapolis, IN 46206

Si un livret d'instructions en français n'est pas inclus avec votre appareil, vous pouvez en obtenir un (INDIQUER LE NUMÉRO DE MODÈLE, VOTRE NOM, ET VOTRE ADRESSE) en vous adressant à:

Service des données techniques
2900 de Miniac
St Laurent, Quebec, Canada
H4S 1N5